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TRADE AND COMMERCE IN ANCIENT INDIA

(From the earliest times to *c.* A. D. 300)

By

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मातापित्रोर्गुरूणां च यशसे

FOREWORD

From the days of the proto-historic Harappa culture, India has always been a trading nation, with prized commodities to offer to the world—jewels, spices and fine textiles, steel, medicinal drugs and perfumes. Her merchants in ancient times were well known outside India from Alexandria to Canton. Within the sub-continent they were respected members of the community, busily buying and selling throughout the land, journeying in large caravans in search of profit. Many of them strongly supported the heterodox cults such as Buddhism and Jainism, and it is largely to the patronage of the wealthy mercantile community, rather than to that of kings and Kṣatriyas, that the development of these two communities is due. The Jain and Buddhist scriptures are replete with references to the pious and wealthy members of the mercantile community, who gave their support to the heterodox religions, and the early votive inscriptions, on *stūpa* railings and in cave temples, tell the same story. Ancient India was not a land of mystics, philosophers and theologians, supported by the subsistence agriculture of millions of simple peasants; neither was India a land where a comparatively small number of brahmans and warriors tyrannized over a servile mass of insignificant cultivators and labourers. At all times there was a significant middle class, mostly engaged in trade and industry, whose wealthier members were influential in the courts of the kings and in the purlieus of the temples.

The sources for the study of these people and their activities are fragmentary and scattered, and in this respect ancient India is much worse served than, for instance, ancient Babylon, which has left economic documents in such quantity that even now many clay tablets excavated in the last century remain unread. Ancient Indian sources, unfortunately, tell us nothing about fluctuations in the prices of staple commodities and throw very little light on the standard of living of

the ordinary man, though there is some evidence to show that he had a rather greater share of the national income than his counterpart in more recent times. Ancient Indian economic history must inevitably be lacking in detail and precision, and there seems little likelihood that archaeology will bring to light a body of new written material to illuminate its many obscurities.

Nevertheless, by the judicious use of a wide range of sources it is possible to present a broad outline of the development of early Indian economic life. Several efforts have already been made in this direction, with varying success. The inadequacy of the material has led many scholars to read too much into their sources, to base ambitious theories on the dubious interpretation of a single word or phrase, to extrapolate the data of any given text as valid for all regions and periods. Dr. Balram Srivastava has avoided most of the pitfalls which trapped many earlier students of the subject. He has carefully re-examined the sources for the economic history of India down to the days of the *Periplus*, when the trade with Rome was at its height, and has checked their data as far as possible with archaeological evidence, which since the second World War has appeared in increasing quantity, and which, though it produces little significant written material, is gradually adding another dimension to our picture of India's past. Thus Dr. Srivastava has made an important contribution to our knowledge of ancient India, which deserves the attention of all students of the subject. I am delighted to have been given the privilege of introducing his book to the world.

11 October, 1967 — **A. L. Basham**

PREFACE

As trade is an index of culture, this important aspect of study in the field of Indology has been receiving attention of scholars since the closing decades of the nineteenth century A. D. The important land-marks of the researches of this aspect of Indian culture are represented by the works of J. Kennedy, Mrs. Rhys Davids, R. K. Mookerji, N. C. Bandyopadhyaya, J. N. Samaddar, Pran Nath, M. A. Buch and A. N. Bose. Some of the general works, mostly devoted to the Buddhist sources, such as those of Richard Fick, B. C. Law and R. L. Mehta also significantly contribute to the study of trade-activities of the past. The monograph of E. H. Warmington, *'The Commerce between the Roman Empire and India'* is a classic on the history of trade and commerce of India and represents successfully the western point of view, being mostly based on the Greek and Roman literature. Besides, we may also refer as important contibutions in this field to some of the recent works of Motichandra, K. D. Bajpai, G. L. Adhya and H. Chakraborti.

While selecting the topic for the present work, I was not only aware of the importance and the value of the subject but also inspired by the writings of the above mentioned scholars. I take this opportunity to express my indebtedness to all such scholars who have contributed directly or indirectly in this field and whose labour has obviously offered an advantage to me.

As one has to cast his net very wide to collect the material for such studies from diverse sources, I have taken only the main aspects of trade and commerce of ancient India and have limited my investigation from the earliest times up to circa 3rd century A. D., thus covering the period from the pre-history representing the beginnings of trade and the other economic activities to nearly the final phase—Indo-Roman trade. For this period, the sources tapped

for the study are mostly literary as well as archaeological and they not only provide material for the reconstruction of the history of trade and commerce of the period in general but of its institutions, organisations, and elements also.

This work substantially represents my thesis, which I prepared in 1963 for the Ph. D. degree of Banaras Hindu University, under the supervision of Professor A. K. Narain. I respectfully acknowledge all kinds of help and guidance that I received from him.

I am thankful to Professor A. L. Basham who has kindly written the foreword for this book.

While the work was in progress, I have been variously helped by Dr. Rai Govinda Chandra and Dr. L. Gopal and I am indebted to them.

I am also thankful to the friendly assistance of Sri Krishnacharya and Sri S. N. Khanna of National Library of Calcutta, Sri Balram Bharadwaj of Saraswati Bhavan Library, Sanskrit University, Varanasi, Sri S. C. Ghildayal and B. N. Pathak of the library of College of Indology, Banaras Hindu University. My thanks are also due to Sri L. P. Mishra for maps, to Sri Bajrangi lal and Sri Madhurji for line drawings.

I would like also to express my gratitude to my publishers, Chowkhamba Sanskrit Series Office.

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CONTENTS

J. U. P. H. S.	*Journal af U. P. Historical Society.*
Meg. and Arrian.	*Ancient India as Described by Megasthenes and Arrian.*
M. A. S. I.	*Memoirs of Archaeological Survey of India.*
Manu.	*Manusmṛti.*
Mbh.	*Mahābhārata.*
Milinda.	*Milindapañho.*
P. M. C.	*Catalogue of Coins of the Punjab Museum.*
Periplus.	*Periplus of the Erythrean Sea.*
Pre-historic background.	*Pre-historic Background of Indian Culture.*
Pliny.	*Natural History.*
R. V.	*Ṛgveda.*
Śat. Brā.	*Śatapatha Brāhmaṇa.*
Social and Rural Economy.	*Social and Rural Economy of Northern India.*
Strabo Geography.	*Geography of Strabo.*
Tour in Gedrosia.	*An Archaeological Tour in Gedrosia.*
Tour in Waziristan.	*A Tour in North Baluchistan and Waziristan.*
Taitt. Brā.	*Taittirīya Brāhmaṇa.*
Taitt. Saṁ.	*Taittirīya Saṁhitā.*
Vāj. Saṁ.	*Vājasaneyī Saṁhitā.*
Vas. D. S.	*Vasiṣṭha Dharma Sūtra.*
Vinaya.	*Vinaya Piṭaka.*
Vinaya (N)	*Vinaya Piṭaka,* Nalanda edition.
Vinaya (O)	*Vinaya Piṭaka,* (P. T. S.) edition.
Yāj.	*Yājñavalkyasmṛti.*
Y. V.	*Yajurveda.*

ABBREVIATIONS

Ait. Brā.	*Aitareya Brāhmaṇa.*
Āp. D. S.	*Āpastamba Dharma Sūtra.*
Archaeological Reconnaissance,	*Archaeological Reconnaissance in North-West India and South-Eastern Iran.*
Arrian's Anab.	*Anabasis of Arrian.*
Artha.	*Arthaśāstra.*
A. S. I. A. R.	*Archaeological Survey of India—Annual Report.*
A. V.	*Atharvaveda.*
Baudh. D. S.	*Baudhāyana Dharma Sūtra.*
B. M. C.	*Catalogue of Coins in the British Museum—The Greeks and Scythian Kings of Bactria.*
B. M. C. Ancient India.	*Catalogue of Coins in the British Museum—Coins of Ancient India.*
D. P. P. N.	*Dictionary of Pali Proper Names.*
Econ. Life. and Progress.	*Economic Life and Progress in Ancient India.*
Gaut. D. S.	*Gautama Dharma Sūtra.*
Harappa.	*Excavations at Harappa.*
Hist. Geog.	*Historical Geography of Ancient India.*
I. M. C.	*Catalogue of Coins in the Indian Museum.*
J. A. S. B.	*Journal of Asiatic Society of Bengal.*
J. B. O. R. S.	*Journal of Bihar and Orissa Research Society.*
J. B. B. R. A. S.	*Journal of Bombay Branch of Royal Asiatic Society.*
J. I. H.	*Journal of Indian History.*
J. R. A. S.	*Journal of Royal Asiatic Society.*
J. N. S. I.	*Journal of Numismatic Society of India.*

CHAPTER I

PHYSICAL FEATURES AND EARLY STAGES OF ECONOMIC DEVELOPMENT

In India, since the days of the *Vedas*, land has been regarded as mother.[1] It has been considered as the womb of natural resources.[2] All economic and commercial activities, therefore, centred round it. But, the *bhūmi* when used in economic sense, never denoted mere surface of the land. It included rivers, forests, mountains, natural and cultivated vegetation and minerals.[3] The *Pṛthvī sūkta*[4] of the *Atharva-veda* gives an elaborate description of *Bhūmi-mātā* and a desire to exploit land in thousands of ways has been expressed in it.[5]

Needless to say that economic development of a country depends considerably on its physical features and its geographical position. Consequently, the varieties in the pattern of economic production bear a close resemblance to the diversities of its physical features.

India may be divided into three physiographic divisions : the Himalayan Uplands, the Indo-Gangetic plains and the Peninsular India.[6] The Himalayan Uplands correspond with the region of Himavat.[7] The Indo-Gangetic plains comprise the

1. माता भूमिः पुत्रोअहं पृथिव्याः *A. V.*, XII. 1. 12.
2. पृथिवीं विश्वगर्भामाशामाशां ' ' *A. V.*, XII. 1. 43.
3. In the same sense the word पृथिवी occurs in *A. V.* XII. 1. The word क्षिति, in Manu, also has the same sense. निधीनां तु पुराणानां धातूनामेव च क्षितौ. *Manu*, VIII. 39.
4. *A. V.*, XII. 1.
5. सहस्रं धारा द्रविणस्य मे दुहां *A. V.*, XII. 1. 45.
6. Subba Rao, *Personality of India*, p. 14; M. B. Pithawala, *Science and Culture*, VII. pp. 533–34. Cultural divisions of ancient India were Madhyadeśa, Udīcya, Prācya, Dakṣiṇāpatha and Aparānta. B. C. Law, *Historical Geography of Ancient India*, p. 12.
7. *Aṣṭādhyāyī*, IV. 4. 112; *Mbh.*, *Bhīṣma*, 7. 6; *E. I.*, Vol. VIII. p. 61; *Hist. Geog.*, p. 16.

two main cultural regions, the Āryāvarta and the Uttarāpatha.[1] The Peninsular India corresponds with the Dakṣiṇāpatha.[2]

The Himavat, a key to the economic progress of Northern India, was traditionally divided into three ranges, namely Antargiri, Bahirgiri and Upagiri.[3] The distinction between the Antargiri and the Bahirgiri[4] was nominal and perhaps they had little to contribute directly to trade. But as they are the perennial source of the Indo-Gangetic system of rivers, their economic value in this respect cannot be minimised.[5] Upagiri may be identified with the outer Himalayas in the narrow strip of *Tarai* and *Bhabbhar* region, below the snowy peaks of the lesser Himalayas. The whole region due to heavy rains and fertile nature of soil was covered with forests and thus formed a good source of timber.[6] This hilly region was also rich in minerals. Some of the mountains like Nīlagiri and Sṛṅgavana were the source of minerals (*sūradhātu*).[7] In the upland valleys flourished some *janapadas*[8] where people not only lived on cultivation[9] but also did trade.

The Himalayan ranges shut off the country from other parts of Asia. But because of the passes, India could maintain its commercial relationship with the rest of Asia. There are several passes in the north Himalayan region which may be divided into three groups, i.e. the Shipki group, the Almora

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1. The whole region between the Himālaya and the Vindhya was known as Āryāvarta. *Manu*, II. 22; *Amarakoṣa*, II. 1. 8.

2. Dakṣiṇāpatha is the region lying to the south of Māhiṣmatī. Some hold that it is situated between the bridge of Rāma and the river Narmadā. According to the *Dharma Sūtras*, Dakṣiṇāpatha lay to the south of the Pariyātra (Arāvalī). *Hist. Geog.*, p. 14.

3. *Mbh.*, (*K.*) *Sabhā.*, 28. 3.

4. V. S. Agrawala, *India as Known to Pāṇini*, p. 39.

5. A. N. Bose, *Social and Rural Economy of Northern India*, p. 3.

6. Mc Crindle, *Ancient India as Described in Classical Literature*, p. 21.

7. *Mbh.*, *Bhīṣma*, 7. 3.

8. Ibid., *Bhīṣma*, 7. 4-5.

9. *Social and Rural Economy*, p. 4.

group and the Darjeeling-Sikkim group.[1] Through all these passes trade-routes were established between India and Tibet. Similar passes, also allowed trade between India and Burma through the north-eastern corner of Assam, Manipur and the Arakans.[2] But the most important trade-routes connecting India and the west, since the proto-historic times, however, flourished through the passes in the north-western ranges of the Himalayas. Some of the important passes of the north-western frontier of ancient India were Khyber, Kuram, Tochi and Bolan.[3]

The alluvial plains of the Indus and the Gaṅgā were the most productive regions of India, suitable for the development of trade, agriculture and industry.

The real source of the prosperity of the Indo-Gangetic plains was the river-system,[4] which not only developed its productivity but provided a system of water-routes also.[5] Most important river-routes were through the streams of the Gaṅgā which formed the main artery of inter-state commerce and which brought down the wealth of Northern India for carrying on export-trade from Tāmralipti[6] to the Far East. Similarly, the river Indus, along with its tributaries, connected the trade-centres of the Punjab and the Sind since the proto-historic days. Numerous towns and cities, which served the purpose of trade-emporiums, flourished on the banks of the Indo-Gangetic rivers.

To the south of the Gangetic plains lay the great plateau of the Deccan. It was bounded in the north by the ranges of Pariyātra (Arāvalī), Vindhya and Mahendra (Vindhyan off-

1. *Hist. Geog.*, p. 19.

2. Ibid., p. 19.

3. Ibid., p. 19.

4. A list of important rivers of India is in the *Mbh.*, *Bhīṣma*, 9. 14-36.

5. Arrian says that most of the rivers of the Northern India were navigable. *Arrian's Anab* Frg. 4. Diodorus mentions that about fifty eight rivers of Northern India were navigable. *Diodorus*, II. 37.

6. *Social and Rural Economy*, p. 6.

shoots in Kaliṅga).[1] These ranges spreading from east to west prevented quick and frequent commercial contacts between the Āryāvarta and the Dakṣiṇāpatha.[2] The Deccan plateau itself did not provide a very convenient background for the development of trade-routes. The rivers also were not suitable for navigation. Though the growth of trade-centres on these rivers was much slower in comparison to those on the rivers of the Indo-Gangetic system, yet some important emporiums and markets of great prominence flourished in the belt of fertile coastal plains.[3] They were closely connected with each other through a system of coastal routes (*kūlapatha*). The passes, namely the Thal Ghat (near Nasik, a market town of great importance) the Bhor Ghat (near Poona) and the Pal Ghat (below the Nilgiris[4]) were perhaps important for the communication between the coastal towns and the trade-centres of the interior peninsula.

The climate and the fertility of the soil were not the same throughout India. Diodorus on the basis of Megasthenes states that India had double rainfall.[5] But though he says that the rainfall in India was regular, it seems that drought and famine were not unknown.[6] Kauṭilya's record of the respective *janapadas* of Mauryan India suggests that the rainfall of India was not uniform. According to him in the fertile borders of the Himālayas and in the Aparānta, the range of rainfall was the highest while in the country of the Jāṅgalas and

1. *Mbh.*, *Bhīṣma*, 10. 10; Identification of Mahendra is controversial. It is said that the Eastern Ghats are known as Mahendra. *Hist. Geog.*, p. 22.

2. The communication between the Āryāvarta and the Dakṣiṇāpatha became popular perhaps in the 6th century B. C. K. A. N. Sastri. *History of South India*, p. 74.

3. They are the plains of Kaliṅga, Tamila, Kerala, Kannaḍa and Konkaṇa.

4. *Hist Geog.*, p. 21.

5. *Diodorus*, I. 36.

6. *Social and Rural Economy*, p. 95–99.

the Aśmakas it was very low.[1] And as there is 'relationship between the optimal rainfall and the growth of vegetation,'[2] the range of production also varied from region to region. Agricultural communities in India flourished, either in the main river basins of the Indus, Gaṅgā, Narmadā, Tāptī, Godāvarī, Kṛṣṇā and Kāverī or where the rainfall could sustain the large scale agricultural communities.[3] No doubt such areas, where the agricultural communities settled, produced various kinds of grains, fruits, vegetables, bulbous roots, fibre producing plants, cotton[4] etc. but, as there was inequality in the cultivated production, particularly due to the nature of soil and the range of rainfall, there always was felt the need of exchange of agricultural commodities in ancient India. But 'while the soil bears on its surface all kinds of fruits which are known to cultivation, it has also underground numerous veins of all sorts of metals, for it contains as much gold and silver and copper and iron and ...... even tin and other metals which are employed in making articles.'[5] In the *Atharvaveda*, the land is regarded as *hiraṇya-vakṣas*[6] and the people in India wished to obtain minerals from the earth.[7] Plains and mountain slopes possessed the minerals, jewels, gold etc.[8] South India was very rich in the mineral ores, therefore, Kauṭilya emphasises the significance of the Dakṣiṇāpatha trade-routes.[9] In the *Rāmāyaṇa* some South Indian *janapadas* like Āndhra, Puṇḍra, Cola, Pāṇḍya, Kerala etc. are said to be rich in minerals.[10] Besides, oceans of India were also rich in precious produce. Kauṭilya has emphasised the significance of

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1. *Artha.*, II. 24. 6-7.
2. *Personality of India*, p. 12.
3. Ibid., p. 12.
4. सर्वधान्यपुष्पफलशाककन्दमूलवाल्लिक्यक्षौमकार्पासबीजानि *Artha.*, II. 24. 1.
5. Megasthenes, *Indica*, Bk. I. Frag. 1.
6. *A. V.* XII. 1. 26; XII. 1. 6.
7. निधिं बिभ्रती बहुधा गुहा वसु मणिं हिरण्यं पृथिवी ददातु मे। *A.V.*, XII. 1.44.
8. *Artha.*, II. 12. 2-5.
9. Ibid., IX. 12. 34.
10. *Rāmāyaṇa*, Kiṣkindhā, 41. 13.

oceans as an important source of commodities. The important produce of the ocean according to Kauṭilya were conch-shells (*śaṅkha*), diamonds (*vajra*), precious stones (*maṇi*), pearls (*muktā*), corals (*pravāla*) and the salt (*kṣāra*).[1]

Forests also had their contribution. The climatic conditions in India were very much congenial for the growth of forests.[2] They covered the land of India so densely that the establishment of agricultural communities was impossible without deforestation.[3] Therefore, it is well said that 'the early inhabited settlements were but islands in the midst of forests.'[4]

1. *Artha.*, II. 12. 34.

2. In the Vedic times undoubtedly the Sapta-Sindhu was covered with forests, but the Vedic literature does not indicate their topography. According to the *Rāmāyaṇa* the countries of Āndhra, Puṇḍra, Cola, Pāṇḍya and Kerala were extensively covered with forests. *Kiṣkindhā*. 4. 13. The western coast of Avantī including Vidarbha also had some forests. The Kukṣī forests were famous for the plant-produce. Ibid., *Kiṣkindhā*, 43. 1. The *Jātakas* mention Mahāvana of Kaliṅga country, Vol. I, p. 420, 504 Vol. II. p. 5 etc. The Buddhist sources inform us that some natural forests existed in the Middle Country in the 6th century B. C. The Kurujāṅgala, for instance, was a wild region in the Kuru realm, which extended as far north as the Kāmyaka forest. The Añjanavana at Sāketa, the Mahāvana at Vaiśālī and the Mahāvana at Kapilavastu were natural forests. The Mahāvana outside the town of Vaiśālī lay in one stretch up to the Himalayas. The Mahāvana at Kapilavastu also lay in one stretch up to the foot of the Himalayas. The Pārileyyakavana was an elephant-forest at some distance from Kauśāmbī and on the way to Śrāvastī. The Lumbinivana, situated on the bank of the Rohini river, was also a natural forest. The Nāgavana in the Vajjī Kingdom, the Śālavana of the Mallas at Kuśīnāra, the Bhesakalāvana in the Bharga Kingdom, the Simsapāvana at Kauśāmbī, the one to the north of setavya in Kosala, the one near Alavi and the Pipphalīvana of the Moriyas may be cited as typical instances of natural forests. The Viñjhāṭavī represented the forests surrounding the Vindhya range through which lay the way from Pāṭaliputra to Tāmralipti. *Hist. Geog.*, pp. 40-41.

3. *Personality of India*, p. 12.

4. N. C. Banerjee, *Economic Life and Progress in Ancient India*, Vol. I. p. 43.

The forest-wealth, according to the *Mahābhārata*, included trees, creepers, climbers, shrubs, bamboo etc.[1] A list of the main items of the forest-produce is also given in the *Arthaśāstra*.[2]

Like the flora the fauna [3] also was economically useful. Kauṭilya has enumerated *paśu* along with other forest-produce.[4] The main species of the animal kingdom which were important either as beasts of burden or as commodities, were cows, buffaloes, goats, sheep, asses, camels, horses and mules.[5] Seven types of wild animals are mentioned in the *Mahābhārata*, some of which were important for the development of leather-industry in India.[6] Besides, some species of domesticated animals useful as beasts of burden also have been mentioned in the *Mahābhārata*.[7]

It is said that India being guarded by the Himālaya and the seas became isolated from the rest of the world. But from this sort of geographical isolation we should not presume that ancient Indians had a sense of contempt for foreigners or they believed that the rest of world did not exist.[8] On the contrary, taking full advantage of their natural surroundings, Indians on one hand intensified the commercial activities within India and on the other extended their commercial relationship with other countries, far from the Indian borders. Even the seas could not bar the trade-activities of ancient Indian traders for, history shows that India was one of the oldest maritime countries.[9]

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1. वृक्षगुल्मलतावल्ल्यास्त्वक्सारास्तृणजातयः *Mbh., Bhīṣma*, 4. 14.
2. *Artha.*, II. 17. 1–11, II, 6. 6.
3. Since the Vedic times the economic significance of *paśu* was realised. *A. V.*, XII. 1. 5.
4. पशुमृगद्रव्यहस्तिवनपरिग्रहो वनम् । *Artha*, II. 6. 6.
5. गोमहिषमजाविकं खरोष्ट्रमश्वाश्वतराश्च व्रजः । Ibid., II. 6. 7.
6. सिंहा व्याघ्रा वराहाश्च महिषा वारणास्तथा ।
   ऋक्षाश्च वानराश्चैव सप्तारण्याः स्मृता नृप ॥ *Mbh., Bhīṣma*, 4. 17–101.
7. गौरजाविमनुष्याश्च अश्वाश्वतरगर्दभाः । Ibid., 4. 18.
8. K.M. Panikkar, *Geographical Factors in Indian History*, (1955) p. 51.
9. R. K. Mookerji rightly points out that though the geography of India points to its natural isolation, the history of India reveals open facts of wide intercourse. R. K. Mookerji, *Indian Shipping*, (1912) p. 2.

India lying in the heart of civilizations, derived full benefits of its geographical position and maintained direct and regular intercourse with the east and the west through its trade activities.

Here, mention may also be made of the currents, drifts and seasonal winds of the Indian Oceans which facilitated the maritime trade of India. For the intelligent guidance of ship movements, the Indian mariners observed the nature of currents and winds. Thus, we read about *Suppāraka Kumāra*, who knew the dangerous nature of the *Valabhāmukha* ocean from which no return of a ship was possible, if it once got into it.[1] The time and movement of seasonal winds were also carefully observed, but sometimes the mariners of India had to face the dangers of unseasonable winds (*akālavāta*).[2] Victims of such *akālavāta*, once 'sailing from India for the purpose of commerce, had been driven by storms into Germany.'[3] Alexander was informed (by local Indian mariners) at the time of his retreat from Pattala, that the trade-winds (south-west monsoons) were not favourable for the voyage. Therefore, Nearchus had to wait for a suitable season to launch the ships.[4] The knowledge of the trade-winds (Indian Etesian winds), facilitated Romans in maintaining direct trade-intercourse with India and in avoiding the tedious coastwise journey.[5] They knew the secrets of this wind through Hippalus.[6]

Some Phases of Early Economy :

It is thus clear that nature provided Indians a suitable background for their commercial activities. But for real economic prosperity, the activity of man is necessary. Natural resources have to be exploited before they can yield results. Nature in a large measure determines the plan, but man is the

1. *Jātaka*, Vol. IV. pp. 141–42.
2. Ibid., p. 139.
3. *Pliny*., II. 67.
4. *Arrian's Anab.*, VI. 21.
5. *Periplus*, 57; *Pliny*, VI. 26.
6. Ibid., VI. 26; *Periplus*, 57.

agent whereby the civilization progresses. With the improvement in technological means man develops a geographical region along definite lines of a given plan. In such exploitations, as Taylor Griffith remarks 'Nature determines the route of development, while Man determines the rate and the stage.' [1]

The economic life of man in India evolved through several phases. Some of these phases preceded the commercial stage. In the first phase man's total economic activity was confined to food gathering. In India this stage occurred when man was in the last phase of the second glaciation or in the beginning of the second (great) inter-glacial period. [2] In this period 'the basis of subsistence was hunting and food gathering in one form or the other.' [3] This phase can be, therefore, described as the 'age of direct appropriation.'

Change in the technique of making tools may mean a change in the mode of living. [4] But in the mesolithic phase in India (as represented by the microliths),[5] we do not find any transition in the development of food economy. People of the mesolithic age continued as hunters and food gatherers [6] and they did not produce food. [7] But on the basis of typological analogy of the western neolithic cultures it can be said that some sort of a 'rudimentary trade'[8] must have begun during this period, particularly for acquiring suitable stones to make tools. It is, however, very difficult to ascertain the role and

1. Taylor Griffith, *Geography in the Twentieth Century*, pp. 14–5.

2. Piggot, *Pre-historic India*, p. 29; *Ancient India*, No. 9 p. 54.

3. *Pre-historic India*, p. 24.

4. D. H. Gordon, *Pre-historic Background of Indian Culture*, p. 16.

5. Ibid., p. 16. Microliths have a fairly vide distribution in India, extending from Jamalgarhi of Peshawar district (Pakistan) to Sawyerpuram of district Tinnevelly and from Karachi in the Sind to Saraikela in Bihar. *Ancient India*, No. 9 p. 64.

6. *Pre-historic Background*, pp. 25–26.

7. *Vedic Age*, p. 132; H. D. Sankalia, *Pre-history and Proto-history in India and Pakistan*, p. 151.

8. Gorden Childe, *Man Makes Himself*, p. 54.

nature of the so called 'rudimentary trade.' One can understand a sort of exchange of such stones particularly among settled communities of mesolithic India. In the year 1949 a factory site of microliths was found in the Singrauli basin, which distributed (perhaps through exchange) the microliths in the areas now comprising of Banda, Bundelkhand and Baghelkhand regions. [1]

With the neolithic [2] development in the material culture there certainly occured a change in the economy of the primitive man. Besides a food gatherer, he became a food producer.[3] In this age man had not only learnt how to smooth his stone tools by various methods but, had also acquired the knowledge of agriculture and pottery-making besides, domestication of animals such as cow, ox, sheep, goat, dog etc. That these people were pastoral-cum-agricultural employing polished stone tools for cutting as well as dressing the wood (carpentry) can be inferred from the shape of their tools. The man in the neolithic age was no longer a hunter moving from place to place in small groups but was a member of an organised community having a social life. [4] The mesolithic man lived mainly on the cliffs by the river-side or on isolated groups of dunes with ponds. [5] With little chance for inter-communication, the tracks and routes were in the mesolithic age mostly undefined. But in this neolithic age, the people were settled and their needs of acquiring new type of stones became so acute that they had to go out to search for them. Therefore, the tracks became defined and perhaps a system of water-transport also became popular particularly among those who lived in river valleys

1. *Ancient India*, No. 7. p 59.

2. The spread of neolithic culture like mesolithic was India-wide. *Ancient India*, No. 9. p. 74; J. Coggin Brown, *Pre-historic Antiquities*, p. 3; B. Foote, *Pre-historic and Proto-historic Antiquities*, Vol. I. p. 2; *Personality of India*, pp. 77–83. But the development was not simultaneous.

3. *Ancient India*, No. 6 p. 77; *Pre-historic Background*, p. 26.

4. H. D. Sankalia, *Indian Archaeology Today*, (1962) p. 46.

5. *Personality of India*, p. 71.

or along sea coasts.[1] In this age, tool-making industry was sufficiently specialised and therefore, some sort of exchange also would have been introduced between manufacturers of the tools and their users. This situation would have given birth to the barter system, and thus a regular trade between the factory sites and those of the consumers would have begun.[2]

Some scholars[3] hold the opinion that cultivation preceded the stock-breeding, while others notably of the German historical school, believe that while some human groups were beginning to cultivate plants, other groups were domesticating animals. Stuart Piggot gives priority to agriculture.[4] In his opinion agriculture and domesticatian of animals in mixed farming may have two different origins, grain growing from

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1. Farly man in the paleolithic and neolithic age settled in the river valleys of Sohan in the Potwar region, Attirampakkam and the suburbs of Madras, Godavari and Krisna basins of the east coast particularly the Nellore region, river valleys of Sabarmati, Mahi, Orsanga and the Narmada in the Gujrat, Godavari in the Maharastra, Malaprabha valley in Karnataka, Kibbana halli in Mysore, Rihand and Balia nadi in the Singrauli basin of Mirzapur, Burhobalang river in the district of Mayurbhanj of Orissa, in the basin of the river Gambhira, Berach and Chambal in the Chitoragarh district of Rajasthan, in the valley of Pravara near Nevasa, Khandivli in Bombay etc. *Personality of India*, pp. 61–64.

2. Unfortunately, the evidence to trace the route of such trade is difficult due to the fact that the story of early trade-movements is not properly revealed through the stone-implements of the Stone Age. But some examples of such trade-movement may be cited. The exchange of agate was common between the factory site at Vida Panu Kallu hill on the Anantapur–Bellari high road and the site of consumers settled in the valley of Tungbhadra. The distance between these two sites is about 60 miles. *Pre-historic Antiquities*, Vol. I. p. 99.

Similar exchanges were made between the sites of Singrauli basin and the sites of Banda, Bundelkhand and Baghelkhand. *Ancient India*, No. 7. p. 59.

3. *Man Makes Himself*, p. 59.

4. *Pre-historic India*, p. 44.

the food gatherers and domestication from the hunters, who had already tamed the dog. [1]

The earliest trace of agriculture can be found in the existence of quern-stones along with microliths at Langhnaj. [2] This is the first positive proof, as V. D. Krishnaswami remarks, as how the original food-gatherers were being metamorphosed into the neolithic food-producers. [3] Stuart Piggot does not believe that agriculture in India has an independent origin. [4] He looks towards the west for the introduction of the art of agriculture in India. [5] Similarly D. H. Gordon opines that 'until peasant farmers from the west started their settlements in Sind, bringing with them a knowledge of agriculture and the potter's wheel, the inhabitants of India were in a mesolithic hunting food-gathering stage of development.' [6]

As our information about the primitive economy is too meagre and very little stratigraphical data for the mesolithic sites are at hand, it seems rather early to arrive at any conclusion regarding the source of introduction of farming in India. It may, however, be suggested that as the oldest crop 'hitherto

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1. *Pre-historic India*, p. 44.

2. *Ancient India*, No. 9, p. 74. But E. F. Zeuner takes this evidence as not conclusive for they have not been found along with the domesticated animals. Ibid., No 9. p. 74. But does the evidence of cultivation without the mark of domestication of animals not point that agriculture in India was earlier than the domestication of animals ?

3. Ibid., No. 9. p. 74. For the opposite view see *Pre-history and Proto-history in India and Pakistan*, p. 151.

4. *Pre-historic India*, p. 42.

5. Ibid., p. 50.

6. *Pre-historic Background*, pp. 33. His argument is based on the fact that no culture having painted ware has been discovered on Indian soil, which can claim to be the ancestral arche type found at the sites on Indo-Iranian borders. But according to him the tradition of painted pottery of Iran can be dated back early in the fifth millennium B. C. He assigns the date for the introduction of pottery culture in Baluchistan between 2950–2750 B. C. *Pre-historic Background*, p. 36.

known is wheat and barley and as Afghanistan[1] is also one of the original homes of ancient wheat and barley, we may not look towards the west in searching the region from where the art of cultivation was introduced in India. It may also be pointed out that according to the Vedic tradition it was Aśvins, who introduced the cultivation of barley in India.[2]

According to B. Subba Rao, Kili Ghul Mohammad was the site where cultivation was introduced earlier than Langhnaj and the establishment of large scale agricultural economy in the main river basins of the country spread over a span of 3,000 years (3,500 B. C. for Kili Ghul Mohammad to about 500 B. C. for the megalithic cultures of the south).[3] But at Kili Ghul Mohammad no evidence of agriculture was found, though people there were domesticating animals since 3,200 B. C.[4] Therefore, it may be said that while the first phase at Kili Ghul Mohammad represents the beginning of pastoral phase of Indian economy Langhnaj represents the beginning of the agricultural phase.[5] These two phases later on jointly provided a condition of surplus to support trade and commerce. But this scope of trade became wide when the farmers of Baluchistan learnt the technique of pot-making.[6] This became the main industry producing a commodity of exchange in the proto-historic period. As it was a specialised art the bulk of people had to exchange their animal and agricultural produce for pottery. As a matter of fact, these traders and pot-makers revolutionised the whole economic

1. *Man Makes Himself*, pp. 60–61; *Pre-historic India*, p. 44.

2. *R. V.* VIII. 22. 6.

3. *Personality of India*, pp. 23–24.

4. Fairservis, *Excavations in Quetta Valley*, pp. 334–335; *Pre-historic Background*, p. 26.

5. We have pointed out that at Langhanaj the evidence for domestication of animals is absent. Supra p. 12.

6. Cattle-breeding at Kili Ghul Mohammad and agriculture at Langhnaj represent a pre-pottery economy. *Pre-historic Background*, p. 26–27. But, pottery comes in the second phase at Kili Ghul Mohammad. *Pre-historic Background*, p. 27, 33–36.

phase of Baluchistan and Sind.[1] This was the stage when the traders got recognition in society. Later on, when metal (copper) came into use, this profession received more impetus. Now the farmers began to depend on traders, who could bring copper and the allied metals for their tools. With the spread of the wheel-made pottery and the use of copper the type of microliths also changed.[2] Those, who were unable to purchase or barter the copper implements with the traders, however, continued to use the stone implements having parallel sided ribbon-flake blades. Such microliths continued to flourish on some sites of the Indus civilization[3] and on several sites of a later date in the middle regions of India.[4]

This was the stage of mixed economy in which stone as well as copper provided jointly the basis for the technical development. This mixed culture of stone and copper (or bronze)[5] prevailed during 2,600 B. C.—1,600 B. C.[6] and is identical with the chalcolithic cultures of the western countries. The chief characteristics of this phase was 'social surplus'[7]

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1. *Pre-historic Background*, pp. 29–36.

2. Ibid, p. 29.

3. Rhori in Upper Sind, Tharo Bandhini and Mahri in lower Sind are the representative of such communities which worked in stone during the Harappan period. N. G. Majumdar, *Explorations in Sind*, p. 39, 20, 120; *Ancient India*, No. 9. p. 82. Similarly stone prevailed at Periano Ghundai, Rana Ghundai in the Zhob, Surjangal in the Loralai regions. A. Stein, *Explorations in Waziristan*, pp. 41, 76. Kili Ghul Mohammad also continued stone flaking till late. Fair servis, *Preliminary Report*, pp. 1–39. It is also to be noted that in the same pattern in Sistan also there were workers in stone of neolithic type, though they were in the chalcolithic phase. A. Stein. *Innermost Asia*, p. 953.

4. *Pre-historic Background*, p. 27.

5. Stuart Piggot thinks that agricultural development in the pre-historic communities of western India and Baluchistan were in the Bronze age. *Pre-historic India*, p. 67.

6. *Pre-historic Background*, p. 63. But Wheeler assigns a period between 2,500 B C. to 1,500 B. C. *Indus civilization*, p. 4.

7. *Pre-historic Background*, p. 70.

sufficient to support the trade and commerce of Harappa and Mohenjodaro. This 'surplus' created by the Indus Valley agriculture and industries provided sound footing for the establishment of trade and commerce.

In South India, this chalcolithic phase of development was lacking. Here copper age was either brief [1] or altogether absent. [2] Stone age-culture continued till early historic days [3] and people passed directly from the phase of stone to that of—iron. The reason why people in South India used implements of stone and iron and not of copper is explained by D. D. Kosambi. He says that besides that the South India is poor in copper, it may also be said that the 'granite and trap-rock of the Indian triangle that just into the sea provide ample material for primitive tools, which can be picked up in profusion. In addition, there are good sources of iron in Dharwar type outcrops, where thick encrustations are to be found with little or no digging even today.' [4] Therefore the trade movement in South India in comparision to that of the Indus valley where chalcolithic culture found full scope, was very slow.

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1. B. B. Lal opines that though there was no exclusive copper or bronze age in South India, a stage has to be recognised in South Indian pre-historic period when bronze and copper had begun to be used, but iron was still unknown. Within broad limits, this chalcolithic phase can be placed in the first three quarters of the first millennium B. C. *J.R.A.S.* (Letters) Volume 15, Pt. I, (1949) p. 43.
2. *Revealing India's Past*, p. 96.
3. *Ancient India*, No. 4. pp. 200, 300.
4. D. D. Kosambi, *Introduction to the Study of Indian History*, p. 19.

CHAPTER II

SOCIETY AND TRADE

With the urbanisation of the Indus culture the trade became vitally connected with the economic life of the society. Trade in the proto-historic days made considerable progress and much of the cultural and colonial contact of the Indus people with others seems to be the result of commerce. [1] We are, however, unable to understand the exact relationship of traders with the bulk of the people of the Indus community. The forcible intrusion of the early Āryans in the Sapta Sindhu probably caused considerable dislocation of proto-historic trade-centres, and trade activities during the Āryan invasion became partially paralysed. For the time being a sort of antipathy developed between the Āryans and non-Āryan traders but could not last long. The Āryans could not remain satisfied for their livelihood on mere cattle breeding and agriculture and as they began to settle in the Sapta Sindhu, the trade began to influence their economy. [2]

Thus, we hear of a Vedic merchant Bṛbu 'who set himself over the highest head of the merchants' and 'whose good bounty led him to give a thousad liberal gift to the *ṛṣis*.' [3] Another Vedic trader Dīrghaśravas, who accepted the profession of *vāṇijya* was favoured by the god Aśvins. [4] The Vedic god

1. R. K. Mookerji, *Hindu Civilization*, Vol. I. p. 21,

2. N. C. Banerjee opines that as the period of early *Vedas* and the period preceding it was an age of economic self-sufficiency and all the rural centres were self supporting, the scope of trade was very much occassional and limited. *Economic Life and Progress*, p. 154. But besides the direct evidence of trade in the Rigvedic period there are some indirect hints to show the state of insufficiency of wealth in the early Āryan community. *R. V.* II. 48. 1; II. 15. 6; III. 33. 12; V. 22. 17; I. 48. 8; I. 56. 2; III. 18. 3.

3. *R. V.* VI. 45. 31–3; S. Aiyangar, *Life in Ancient India in the Age of the Mantras*, p. 40–1.

4. *R. V.* I. 112. 11.

Agni became the favourite deity of the traders.[1] Parties of merchants went for maritime trade in the ships of hundred oars.[2] Higgling[3] beacame a common practice for settling the prices of commodities. All these show that gradually trade became popular among the Vedic Āryans.[4]

Though the Āryans began to take interest in trade, a class of traders known as Paṇis, however, incurred 'intense dislike to the composers of the *Saṃhitā*.'[5]

The identification of the Paṇis is a difficult problem of Indian history[6] and the various theories proposed by scholars generally seem to be mere surmises. They have been variously identified with an aboriginal non-Āryan people;[7] with the Babylonians (on the strength of the word bekanāṭa);[8] with the Paranians of Strabo (an Iranian tribe);[9] with the Pāṇḍavas of Indian classical history;[10] with the Phœnicians[11] and

1. *R. V.*, X. 156. 3.
2. Ibid., I. 56. 2; I. 116. 5.
3. Ibid., IV. 24. 9.
4. Ibid., I. 112, 11; *Economic Life and Progress*, p. 154.
5. *Vedic Index*, Vol. I. p. 471.
6. Macdonell and Keith opine that the term Paṇi is wide enough to cover either the aborigines or the hostile Āryans as well as the demons. *Vedic Index*, Vol. I. p. 472.
7. Ludwig thinks that the 'apparent references to fights with the Paṇis are to be explained by their having been aboriginal traders who went in caravans as in Arabia and Northern Africa—prepared to fight, if need be, to protect their goods against attacks, which the Āryans would naturally deem quite justified. He supports this explanation by the references to the Paṇis as Dasyus and Dāsas.' Ibid., Vol. I. p. 472.
8. *Vedic Age*, p. 472.
9. *Vedic Index*, Vol. I. p. 473; *Vedic Age*, p. 249.
10. R. G. Bhandarkar, *Early History of the Deccan*.
11. According to some scholars 'the Paṇi of the *Ṛgveda* is Latin Poeni = Phœnicians, i.e., a trading people. They were a clan of the Asuras, whose chiefs Vṛtra and Vala were defeated in a fight with the Devas and were, therefore, ousted from the north. They, therefore finally settled on the Levant. Their new colony was called Poni-desh, Lat. Finduis =

sometimes with non-Āryan caravan traders.[1] A. C. Das, however, assumes that the Paṇis were the Āryan traders, who being expelled from the Sapta Sindhu colonised Phœnicia.[2]

It is apparent that the above mentioned theorists attempt to identify the term Paṇi with some race. But, if the problem of the Paṇis is not deliberately mixed with race issue and the term along with its attributes like *mṛdhravāc* or *ayajvan*[3] etc., are properly studied, it may be suggested that the term Paṇi denoted the Ṛgvedic traders and the popular apathy against them was due to reasons other than racial.

The reason for antagonism between the Paṇis and the ṛṣis was personal. The Paṇis were uncharitable and miserly in bestowing *dakṣiṇā* on the ṛṣis and refused to take part in the sacrificial rites. Therefore, they were branded as greedy and selfish[4] by the priests, whose livelihood mainly depended upon the sacrificial *dakṣiṇā*. As the Paṇis were traders, they did not give anything to anybody without getting a price for it, they were condemned by the priests as misers. Once Aṅgiras, the famous Vedic seer requested Indra not to behave like a Paṇi (*mā paṇir bhur*-do not be a Paṇi; i.e., miser) in bestowing riches on the worshippers.[5]

The greed and the niggardliness of the Paṇis developed a persistent hostility between them and the purohitas. The unseeming refusal of the Paṇis to contribute to *dakṣiṇā* and *dāna*

Phœnica. The Phœnicians are described by the classical writers of Europe as faithless, treacherous and deceitful-a description quite in unison with the Vedic account.' S. K. Das, *Economic History of Ancient India*, pp. 31-32.

1. *Vedic Age*, p. 249.

2. A. C. Das, though identifies the Paṇis with the Phœnicians, invents a curious story about their migration from the Sapta Sindhu to the region of the Colas and the Pāṇḍyas and thence to Phœnicia. *Rigvedic India*, pp. 187-199.

3. *Vedic Index*, Vol. I. p. 471.

4. Ibid, Vol. I. p. 472; *R.V.*, VI. 51. 14.

5. Ibid, I. 33. 3.

was taken by the purohitas as enimical utterance (*mṛdhravāc* [1]) and a clear hostility towards the religion. They requested gods to sieze their wealth [2] and to bring harm to them. [3]

In one verse, Indra is described as one who does not maintain any relationship with the greedy Paṇis and takes away their wealth. [4] The hostility, of course, reached a climax when the Paṇis adopted uncommercial methods of acquiring commodity and took away the cows of Aṅgiras, a ruthless opponent of the Paṇis. [5] This was really a grave incident to rouse the feelings of the priestly class against the Paṇis. The gravity of this incident can best be judged by the fact that this incident has been referred to in the Vedic literature more than once. [6]

This state of affairs does not, however, appear to have continued long, for, such a rivalry caused by personal reasons was sure to affect the social and economic prosperity of the Āryan community. Gradually in the Vedic economy trade found a place and the Paṇis were assimilated in the Vedic society. This process of assimilation was almost complete by the time of the completion of the *Ṛgveda*. Therefore, in the post-Ṛgvedic period the expression of antagonism between the Paṇis and the ṛṣis becomes very rare. In the post-Vedic literature the word Paṇi occurs very rarely [7] though the words *paṇika*, *vaṇika*, *paṇya*, *vipaṇi* and *pratipaṇa* in commercial sense and context became current in the language. [8]

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1. Ibid., I. 74. 2.
2. *R.V.*, VIII. 45. 15.
3. Ibid., I. 124. 10; I. 184. 2; III. 53. 1; VI. 25. 17; IX. 22. 6; IX. 29. 4; X. 48. 1, etc.
4. Ibid., IV. 25. 7.
5. Ibid., X. 108.
6. The incident is described in detail in *R. V.*, X. 108. It has been repeated in *R.V.*, I. 62. 8; I. 66. 1; I. 93. 4; I. 112. 5–6; I. 112. 18; I. 42. 5; I. 132. 11; II. 24. 6–7; IV. 1. 16; IV. 2. 16; IV. 16. 8; IV. 28. 5; V. 45. 8; VI. 17. 7; VI. 39. 2; VI. 47. 6–7; VI. 73. 1–3; IX. 97. 39; IX. 111. 2; X. 48. 1–2; X. 67. 1–12; X. 68. 2–6; X. 74. 2.
7. *Vedic Age*, p. 249; *Vedic Index*, Vol. I. p. 471.
8. Ibid., Vol. I. pp. 471–472.

Later on, with the assimilation of the Paṇis there arose a composite Vaiśya class. [1] In the beginning, it seems that the occupation of the Vaiśyas was not strictly defined and the Vaiśyas sometimes took part in military activities [2] also along with the Rājanyas and thus their social status was inferior only to the class of the Brāhmaṇas. But, due to the constant social and political association of the Rājanyas with the Brāhmaṇas, as suggested by the associations of the names of the priests and the kings in the hymns,[3] a gap occured between the Vaiśyas and the Rājanyas which resulted in reducing the status of the Vaiśyas. Both the classes became privileged classes and the Vaiśyas became subservient and tributary to the upper classes. In the *Aitareya Brāhmaṇa*, the Vaiśya class is described as tributary to others *(anyasya balikṛt),* to be lived on by others *(anyasyādyaḥ),* to be oppressed at will *(yathākāmajeyaḥ),* and to be removed at the king's will from his land.[4] Such antipathy against the Vaiśyas among the Brāhmaṇas and the Rājanyas during the time of the Brāhmaṇas became very keen. Therefore, we find several instances where the Brāhmaṇas express their desire to exploit the Vaiśyas as a matter of right. Thus, says the *Taittirīya Saṁhitā*, 'the Vaiśyas among men and the cows among beasts are to be enjoyed by others ; they are produced from the receptacle of food, therefore, they exceed others in numbers.' [5] The same Brāhmaṇa further tells 'the viś go away from (reside separately from) the Brāhmaṇas and the

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1. The word Vaiśya occurs in the *Ṛgveda* only in the *Puruṣa sūkta.* But, the word *viś* is very frequently employed in the *Ṛgveda* to denote the people of the Āryan community. P. V. Kane, *History of Dharma Śāstra,* Vol. II. Pt. 1, p. 32. Most probably *viś* included the people other than the Brāhmana and the Kṣatriyas.

2. *R.V.*, I. 69. 3.; IV. 24. 4; VI. 26. 1; VII. 79. 2.

3. N. K. Dutt, *Origin of the Caste*, p. 57; *Hindu Civilization*, Part I. pp. 114-115.

4. *Ait. Brā.*, VII. 29.

5. वैश्यो मनुष्याणां गावः पशूनां तस्मात्त आद्या ।
अन्नधानाद्ध्यसृज्यन्त तस्माद्भूयांसोऽन्येभ्यः ॥ *Tait. Saṁhitā*, VIII. 1. 5; *History of Dharma Śāstra*, Vol. II. Pt. I. p. 41.

Kṣatriyas.'[1] Similarly, in the *Tāṇḍya Mahā Brāhmaṇa* there is a verse which says that the Vaiśya was to be eaten by the Brāhmaṇas and the Rājanyas, since he was created as lower (than the Brāhmaṇas and the Kṣatriyas).[2] In the *Śatapatha Brāhmaṇa* a Vedic seer invokes Marut and Indra by assigning their shares in *havis* with a view to make them subservient to the nobility. [3] In the *Aitareya Brāhmaṇa* the Vaiśya has been defined as one, who is the food of others and who pays taxes to others. [4]

The complexity of Indian society during the time of the *Sūtras*, is well depicted in the ritualistic literature of the time. Now, the professions and the occupations become more specialised than before. In this period, a number of important occupations had become the monopoly of certain castes and the members of the caste generally were not free to adopt the occupation of their choice. [5] This was more true of the lower classes. Vasiṣṭha says that those who are unable to live by their own lawful occupation may adopt (that of) the next inferior (caste), but never (that of) a higher (caste) one. [9] Later, Manu imposed further restrictions and announced that one must renounce the occupation adopted in odd circumstances as a *āpaddharma* after he has bettered his circumstances ; otherwise, he would lose his class. [7]

The lawful occupations of the Vaiśyas according to the various *Dharmasūtras*, besides study, sacrifice and *dāna* were agriculture, trade, and cattle breeding.[8] Some added banking *(kuṣīda)*[9]

1. तस्माद् ब्रह्मणश्च क्षत्राच्च विशोन्यतोऽपक्रमिणोः । *Tait. Brā.*, 1. 6. 5.
2. *Tāṇḍya. Mahā Brā.*, VI. 1. 10.
3. *Śat. Brā.*, IV. 3. 3. 10.
4. *Ait. Brā.*, 35. 3; *History of Dharma Śāstra*, Vol. II. Pt. I. p. 42.
5. Ram Gopal, *India of Vedic Kalpasūtras*, p. 117.
6. *Vasiṣṭha Dharma Sūtra*, II. 22–24; *Viṣṇu Dharma Sūtra*, II. 15.
7. *Manu*, X. 93.
8. Baudhāyana enumerates the duties of the Vaiśya as : विट्स्वध्यायन-यजन-दान-कृषि-वाणिज्य-पशुपालन-संयुक्तं कर्मणां वृत्यै I. 10. 18. 4 and also *Gautam Dharma Sūtra*, X. 48; *Āpastamba Dharma Sūtra*, II. 5. 10. 7; *Vasiṣṭha Dharma Sūtra*, II. 29.
9. *Gautama Dharma Sūtra*, X. 48.

and art (*śilpa*)[1] to the above mentioned functions of the Vaiśyas. This was really a very wide scope for the Vaiśya class in comparison to those of the other *dvijas* and it included almost all the major modes and agencies of production and distribution. Apparently, such a wide scope of the Vaiśya activity was to bring about a lesser organic unity among them than among the Brāhmaṇas and the Kṣatriyas. Thus, N. K. Dutta observes 'while the Brahmana and the Kshatriya classes were somewhat homogeneous units with more or less definite functions, the Vaiśyas were a unit only in name, being formed of a conglomeration of diverse classes with diverse functions and with different rules and regulations guiding them in their respective guilds and corporations.'[2]

This lack of organisation left the Vaiśya class undefended from the occasional intrusions, interferences[3] and even exploitations[4] by the upper classes and they became socially much inferior to the Kṣatriyas.[5] The close and constant association of the Vaiśyas with the Śūdras due to the very nature of their occupations also resulted in their social deterioration.[6]

Religion had profound influence on ancient Indian society and it controlled considerbly the conducts of the individuals. It also guided the business conduct of the traders. The *Dharmasūtras* repeatedly advised people to earn their livelihood by performing their caste-duties (*varṇadharma*). The injunctions of the *Dharmasūtras* had religious sanction behind them and they were not supposed to be ignored. Gautama has pointed out that by following the caste-duties one had a chance

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1. *Gautama Dharma Sūtra*, XVII. 7.

2. *Origin of the Caste*, p. 58.

3. Due to the conception of *āpaddharma*, the castes, other than the Vaiśyas were allowed to take the profession of the Vaiśyas. *Gautama Dharma Sūtra*, VII. 6, 6–25; *Baudhāyana Dharma Sūtra*, II. 2. 4, 16–21; *Vasiṣṭha Dharma Sūtra*, II. 22–25.

4. Supra., pp. 20–21.

5. Gautama says that the higher is the caste, the greater is the merit. *Gautama Dharma Sūtra*, I. 1. 1. 8.

6. V. M. Apte, *Social and Religious Life in the Gṛhya Sūtras*, p. 15.

of betterment in the next life. Thus he says 'Men of the several castes and orders who always live according to their duties, enjoy after death the rewards of their work and by virtue of a remanent of their (merit) they are born again in excellent countries, castes and families with beauty, long life, learning in the Veda, (virtuous) conduct, wealth, happiness and wisdom.' [1] It has been pointed out by the same authority that 'those who act in a contrary manner perish, being born again in various (evil) conditions.' [2] To some extent these injunctions have protected the Vaiśyas and their right to trade, because normally people did not dare incur social and divine wrath by deviating from family profession. [3] Castewise allocation of occupations was accepted as a divine decree and was not regarded as a social injustice atleast during the *Sūtra* period. [4]

But gradually, partly due to the prosperous nature of trade and partly due to the denouncement of the caste rules by the Buddha and his disciples, the rigidity of *varṇadharma* became considerably mild. The Brāhmaṇas and the Kṣatriyas, unable to earn their livelihood by teaching, priesthood or state-craft, indulged in trade and commerce along with the Vaiśyas. The conception of *āpaddharma*,[5] which allowed the Brāhmaṇas and the Kṣatriyas to trade in times of distress also affected the strict and rigid rules of *varṇadharma*. Buddhist literature has several references which show that the Brāhmaṇas as well as the Kṣatriyas accepted the trading profession not only in times of distress but also in ordinary circumstances. [6] A verse in the *Bhūridatta Jātaka* very remorsefully says—

1. *Gautama Dharma Sūtra*, II. 31.
2. Ibid., II. 32.
3. *India of Vedic Kalpa Sūtras*, p. 132.
4. Ibid., p. 132.
5. *Gautam Dharma Sūtra*, VII. 6-25; *Baudhāyana Dharma Sūtra*, II. 2. 4. 16-21; *Vasiṣṭha Dharma Sūtra*, II. 22-35.
6. R. Fick, *Social Organisation in North East India in Buddha's Time*, pp. 241-246.

'As householders gain a livelihood
Court all pursuits legitimate and good,
So Brāhmaṇas now in our degenerate day
Will gain a livelihood in any way.' [1]

We know from the *Mahā Sutasoma Jātaka* about a wealthy Brāhmaṇa carrying business by transporting goods in five hundred cart-loads between the east and the west (*pubbanta aparantam*). [2] Minor trade professions like hawking and bartering were also carried on by the Brāhmaṇas. [3] Some of the Brāhmaṇas even took to carpentary as their profession. [4] Similarly a Brāhmaṇa youth lived by selling the hunted beasts. [5]

That the Brāhmaṇas were taking part in trade and commerce is also known from the *Manusmṛti*. Such Brāhmaṇas were not allowed to take part in the *srāddha* ceremony. [6] They were regarded socially inferior.

Sea voyage (*samudra saṁyāna*) by a *dvija* was included in the list of *kalivarjya* of the *Smṛtis*.[7] Baudhāyana quite explicitly bans travel by sea. The offence, according to him, involves a great ritual impurity and the penance laid down is very severe—the offender must eat only a little food at every fourth meal, he must bathe every morning, noon and night, and he must pass the days standing and the nights sitting. Only after three years of this austere regime does he lose his guilt.[8] According to most of the commentators this injunction was applied

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1. *Jātaka*, (c) Vol. VI. p. 113. Other instances where the Brāhmaṇas accepted the occupations of the Vaiśyas are in the *Sutta Nipāta* I. p. 71; E. J. Thomas, *The Life of the Buddha*, p. 117.
2. *Jātaka*, Vol. V. p. 471.
3. Ibid., II. p. 15.
4. Ibid., II. p. 207.
5. Ibid., II. p. 200.
6. चिकित्सकान्देवलकान्मांसविक्रयिणस्तथा ।
   विपणेन च जीवन्तो वर्ज्याः स्युर्हव्यकव्ययोः ॥ *Manu*, III. 152.
7. *History of Dharma Śāstra*, Vol. III. pp. 932–938.
8. *Baudhāyana Dharma Sūtra*, I. 1. 22. A. L. Basham, *Studies in Indian History and Culture*, p. 162.

only in the case of the Brāhmaṇas.[1] But as the sea-trade and voyage was regarded in ancient India as one of the lucrative sources of profit, this injunction probably had little influence over either the *dvijas* in general or the Brāhmaṇas in particular. The *Jātakas* record a number of instances of the Brāhmaṇas going on sea voyage for trade.[2] Manu adopted a reasonable attitude towards this injunction and said that though a Brāhmaṇa, who had been on a sea voyage, was sinful and was not to be invited at a *śrāddha* he was not to lose his caste.[3] He, in the eyes of Manu, was not also unfit for associations. It is also to be noted that Baudhāyana imposed restrictions on sea voyage only in case of the Brāhmaṇas of the north. He has included sea voyage among the five practices peculiar to the north.[4] Buddhists had no religious objections to sea voyage and trade. Therefore, we can conclude that the injunction of Baudhāyana had practically no influence on maritime trade activities.

Some classes of *gṛhapatis* and *kauṭumbikas* also arose in the society, who accepted the avocations of merchants, farmers, caravan-leaders, bankers etc. These classes probably arose during the post-Mauryan socio-political chaos incorporating the Vaiśyas as well as the non-Vaiśyas.

From the above it appears that the Vaiśya class within the fold of *varṇadharma* was not enjoying full occupational security. To avoid occasional intrusion by the other *varṇas* into their business and occupational monopoly the Vaiśyas created, in due course new organizations like *śreṇī*, *nigama*, *pūga*, *sārthavāha* etc. about which we shall discuss later.[5] These organizations formulated their own rules and regulations for the guidance of their business conduct known as *samaya* and *śreṇīdharma*. These rules, of course, were not opposed to *varṇadharma* and had religious and governmental sanction behind them.

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1. *Studies in Indian History and Culture*, p. [illegible]
2. *Jātaka*, II. p. 127; IV. pp. 15–17; [illegible] p. [illegible]
3. *Manu*, III. 158, 166, 167.
4. *Baudhāyana Dharma Sūtra*, I. 1. 22
5. Infra., pp. 212–214, 219–222.

Localisation of industry and trade was an important factor of the urban life in ancient India. City aportioned in several *vīthis* such as *dantakāra vīthi, kumbhakāra vīthi, peśakāra vīthi, tantukāra vīthi,* etc.[1] also gave a sort of social security, industrial convenience and a pattern of corporate life.

The impact of foreigners on Indian society was of vital importance. This impact came through the Greeks (Yavanas) who had settled in the north-west of India before the Alexandrian invasion (326 B. C.).[2] During the Mauryan days the foreigners were put under special governmental care [3] and some of them were given important posts in the government. [4] With the fall of the Mauryan Empire (2nd century B.C.) some Yavana dynasties established their suzerainty in India. Under these Yavanas, some trade-centres like Kapiśā, Takṣaśilā, Puṣkalāvatī, Vidiśā [5] etc. prospered. Menandar patronised trade-emporium of Sāgala (Sākala) where traders from distant places came. [6] The trade-relations of the emporiums of his territory extended far beyond his kingdom and influenced the monetary system of Barygaza (Bharukaccha) [7] and of the Audumbaras and the Kuṇindas. [8] Similarly, in the territory of the Śakas there were trade-centres of Kapiśā, Takṣaśilā, Puṣkalāvatī and Mathurā. [9] Under the Kuṣāṇas the Indian trade made considerable progress and trade-relations of Kuṣāṇa traders with China, Rome, [10] Sindhu, Sauvīra, [11] Kapiśā, Gandhāra,

1. Rati Lal Mehta, *Pre-Buddhist India*, pp. 213-214; *Jātaka*, Vol. III. p. 198; Infra., p. 210.
2. A. K. Narain, *The Indo-Greeks*, pp. 2-3.
3. *Indica*, Frag. 34.
4. Yavana Rāja Tuṣāspha was the Rāṣṭriya of Aśoka. *Epigraphia Indica*, Vol. VIII. p. 46.
5. H. C. Roychaudhari, *Political History of Ancient India*, pp. 422-28.
6. *Milinda*, Vol. I. pp. 1-2.
7. *The Indo-Greeks*, pp. 68-69.
8. Ibid., p. 89.
9. *Political History of Ancient India*, pp. 434-435 and 437.
10. Ibid., p. 463.
11. Ibid., p. 467.

Puṣkalāvati, Mathurā, Vārāṇasī were established.[1] The trade-centres of Vidiśā, Ujjainī, Bharukachha, Śūrpāraka, Prabhāsa, Daśapura and Nāsika[2] were under the occupations of the Western Kṣatrapas. It seems that there was perfect cultural amity between the Indians and the Greeks, who had been Indianised through religion, language and customs.[3]

It may be that the foreign traders were also absorbed among the Indian trade-communities and there arose no cause of rivalry between the Indian traders and those coming from abroad. We do not come across any reference of such feelings from any source. On the contrary, we find that the yavanas had full confidence in the banking system of Indian traders and they deposited their money (*akṣaya-nīvī kahāpaṇa sahasra*) in the Indian banking guilds like the *Koliya-nikāya* of Nāsika.[4]

1. *Political History of Ancient India*, pp. 473–76.
2. *Epigraphia Indica*, Vol. VIII. pp. 78–79.
3. *Mauryas and Sātavāhanas*, pp. 473–75.
4. *Epigraphia, Indica*, Vol. VIII., pp. 82–83.

CHAPTER III

PROTO-HISTORIC TRADE-ROUTES

Trade-routes are the veins of the economic life of a country. From the earliest times they have determined the route of progress and broken the isolation of regional economy. Even in the paleolithic age the tracks, which later on developed into trade-routes, were means of socio-economic contacts between the various groups and their sub-groups. With the spread of the neolithic culture in India, the number and the distribution of the primitive tracks increased. In the neolithic period, since people preferred to live in the river valleys, besides the natural water-routes, they found it convenient to follow the water-routes and discover tracks along the course of rivers. But the development of tracks mostly depends upon the growth and location of industries. In the areas of lithic industries, even during the protohistoric period, the condition of tracks remained primitive and the extensions of tracks were mostly confined to the areas respective cultures. A few communities, however, maintained occasional contacts with other communities. [1]

In Sind, the Amri culture as represented by a class of ware of buff or light red clay with purely geometrical patterns, shows its pre-Harappan contacts [2] with Lohri near lake Manchhar, Pandi wahi, Bandhni, Dambbuthi and Chauro. [3] Such cultural contacts presuppose the existence of tracks connecting the above mentioned sites with Amri. Like Amri (in south Baluchistan) also there were some cultural groups in Zhob (in north Baluchistan), Quetta (near Bolan pass), Nal (in the Nal Valley of Baluchistan) and Kulli (in south Baluchistan [4]), which developed their respective groups of tracks connecting the neighbouring sites. Of these sites, Nal (and its neighbouring

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1. R. E. M. Wheeler, *Early India and Pakistan*, p. 93.
2. N. G. Majumdar, *Explorations in Sind*, p. 152.
3. Ibid., p. 148.
4. *Pre-historic India*, p. 72.

site Nundara) had closer connections with Amri than the sites near Quetta and Zhob. The link between Amri, Nal and Nundara was perhaps through the valleys of the Mulla and the Gaj. [1]

By 2,500 B. C. it seems that the people of Mohenjodaro and Harappa developed an effective system of water transport. The Indus and its important tributaries and the terminal sea coast provided the necessary facilities. [2] This development of the means of water-communication probably led to the emergence of an urban civilization in the Indus valley. [3] The pre-Harappan sites, which due to their geographical situations were not in a position to derive the benefits of natural highways of the Indus, became culturally and economically backward and a number of Harappan sites situated on the Indus rose into prominence. N. G. Majumdar has pointed out that those people of Sind region, who dwelt on the sites like Pokhran, Gazishah, Dambbuthi, Bandhni and Chauro, which are far away from the Indus, were comparatively poor in material equipment than those, which were situated on the wide expanse of the Indus plains. [4]

The remarkable affinity in the ,elements of civilization of Mohenjodaro and Harappa,[5] naturally pre-supposes the existence of a route-link although they were 350 miles apart. [6] Once these two points of the Indus civilization became connected, it was obvious that new routes would branch off to connect new centres of urban culture contemporary with or succeeding the Harappa-Mohenjodaro culture. [7]

1. *Pre-historic India*, p. 66.
2. *Early India and Pakistan*, p. 94.
3. Ibid., p. 94.
4. *Explorations in Sind*, p. 146.
5. *J. Marshall, Mohenjodaro and the Indus Civilization*, Vol. I, p. 195.
6. Wheeler, *Indus Civilization*, 1st. ed. p. 3.
7. 'With the metropolitan centres, like Harappa and Mohenjodaro the urban culture of the Indus stretched from Rupar at the foot hill of Simla to Sutkagendor near the shores of the Arabian sea, a distance of 1000 miles. Explorations during the past ten years have extended the reach of the vast civilization eastwards to Ukhlina 19 miles west of Meerut in the

While the river-routes were easier and more dependable[1] for the Indus valley traders, the use of land-routes cannot altogether be ruled out. A study of the layout of Harappa and Mohenjodaro would indicate that the technique of road-making was known and practised during those times. [2] The model clay carts found at Mohenjodaro and Harappa [3] and the other cities also corroborate this evidence.

But, whatever might have been the type of route, a trader of Mohenjodaro must have followed the Indus course as far north as the confluence of the Sutlej and the Indus. Advancing along the Sutlej they would have reached the Jhelum and following the course of the Jhelum they might have traversed along the course of the Ravi to reach Harappa. [4] Further up, this route extending from Harappa would have connected Rupar. Perhaps, the route between Harappa and Rupar was partly by land (from Harappa to the Sutlej) and partly by water (along the course of the river Sutlej). Similar routes connected Harappa with the sites of Bikaner state and Kali Bangan situated on the dry beds of the Sarasvatī and the Dṛṣadvatī. In Bahawalpur state also there are sites showing affinity with Harappa and Mohenjodaro. As these were mostly situated along the Hakra and the Ghaggar, a trader from Mohenjodaro might have followed the course of the Indus to reach these sites. From Rupar the Sutlej provided possible river-route for the protohistoric centres of Bahawalpur state.

Below Mohenjodaro, there were three main commercial

Jamuna basin and southward into Kathiawad (Rangpur, Lothal, Somnath, the Halar) and beyond to the shore of the Gulf of Cambay near the estuaries of the Narmadā and the Tāptī (Mehgam, Telod and Bhagatrava).' *Early India and Pakistan*, pp. 94–95.

1. M. S. Vats, *Harappa*, Vol. I. p. 2.
2. *Indus Civilization*, p. 17.
3. Infra., pp. 136–137.
4. In Proto-historic days the Ravi comprised two streams instead of one and their confluence was at Harappa. *Harappa*, Vol. I. p. 1. But for the other view see *Indian Antiquary*, Vol. LXI. p. 163.

centres—Lohumjodaro, Amri and Chanhudaro. At present Amri is near the Indus. But, as in those days Chanhudaro was probably situated on the left bank of the Indus, [1] Amri must have been away from the river. Probably, due to this reason the commercial and cultural position of Amri, which had been supreme during pre-Harappan days, became subservient to Mohenjodaro. But some relationship between Amri and Chanhudaro can be attested. Probably the people of Amri and Chanhudaro were connected through a system of land-route.

Rowing from Mohenjodaro, a trader could easily approach the market of Chanhudaro via Lohumjodaro. [2] A large protohistoric population was also scattered near the Manchhar lake, in the hilly tracks of Johi, Sehwan, and near Kohistan bordering the Kirthar ranges. [3] Some of the sites near the Manchhar lake like Shah Hasan, Lohri, Lakhiyo and Jhanger had trade-relations with Mohenjodaro. [4] Some routes probably connected Lohumjodaro with these centres, though it is difficult to suggest a definite line of communication. At present there is a route from Sehwan connecting Jhangar and Johi. [5] This route may be the modern representative of the proto-historic route connecting Jhangar, Shah Hasan, Lohri and Lakhiyo. It partly runs along the river Bandhni between Jhangar and Shah Hasan. Other sites of the region like Ghazi Shah, Tando Rahim Khan, Alimurad and Pandiwahi were more important than the sites near the Manchhar lake. The influence of Amri on Pandiwahi was greater than that of Mohenjodaro. [6] A trader from Amri could approach the place by taking the

1. *Indus Civilization*, p. 42.

2. Between Lohumjodaro and Chanhudaro there must have been some more economic centres, but the evidence of their existence probably has been destroyed due to the floods of the Indus. *Explorations in Sind*, p. 69.

3. Ibid., Pl. I.

4. Ibid., pp. 63-70.

5. Ibid., p. 60.

6. Ibid., p. 86.

course of the river Bandhni upto the lake Manchhar and then the course of Angol to Alimurad. For Alimurad a land-route might have taken a trader to Pandiwahi. Pandiwahi and Ghazi Shah, were two important trade-centres, whose relationship was not confined to Mohenjodaro group of sites. The ceramic similarity of these sites with Kulli-Mehi also shows their affinity with these centres. For communication with Baluchistan the pass of Phusi provided a suitable opening. [2] The sites like Gorandi, Naiz and Dambbuthi fall in line along the river Naiz which might have provided a water course for communication.

It seems that Amri people singly occupied some sites like Dambbhuthi, Bandhni, Chauro, Pokharan, and Kohtrash. [3] But some sites like Dhal, Karchat and Disoi were occupied jointly by the peoples of Mohenjodaro and Amri. These sites might have been joint trade-colonies of Amri and Mohenjodaro.

The convenient route between Dambbhuthi and Disoi near Thano Bula Khan must have passed along the courses of the rivers Bandhni, Maliri, Pokharan and Baron. Near Disoi one had to cross the Darwat pass and the Baron river to reach Amilano and Orangi. The modern route between Thano Bula Khan and Orangi seems to be the only possible representative of proto-historic between Disoi and Orangi. [4]

Orangi was the last out-post of the Harappan culture in Sind.[5] It might have been a link in that great chain which once connected ports of India with those of Baluchistan, Persia and Kathiawad. [6] From Orangi or some other port near modern

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1. *Explorations in Sind*, pp. 63–70.

2. *Pre-historic India*, p. 72.

3. In all these places ceramic remains exclusively correspond to the Amri group of pottery. *Explorations in Sind*, pp. 115, 121, 128, 134.

4. Ibid., p. 142.

5. Ibid., p. 144.

6. Govindchandra, *Studies in the Development of Ornaments and Jewellery in Protohistoric India*, p. 199.

Karachi, a coastwise route might have been adopted by Harappan traders to approach the trade centres of Kathiawad (Halar, Amara, Kinnarkheda, Somnath, Rangpur and Lothal) and the places near the estuaries of the Narmadā and the Tāptī (Mehgan, Telod and Bhagatrav). Lothal was a regimented coastal township, which had a suitable embankment for harbouring the Harappan ships.[1] Bhagatrav was the last known Harappan settlement in Western India. It also seems to have been a port having contacts with other Harappan sites. [2]

Very limited contact between the peasant communities of Baluchistan and the Indus culture has been found before 2500 B. C. But, later when the urban influence of Mohenjodaro and Harappan cities began to dominate the peasent communities of Baluchistan, the contact between them became intensive. The main channels of communication were through the river valleys. Thus, in Waziristan and North Baluchistan it were the Kurram, the Gomal and the Zhob rivers, which provided trade routes through their waters. The antiquity of these rivers is well confirmed by the *Nadī Sūkta* of the *Ṛgveda*.[3]

Some sites like Periano Ghundai, Kaudani, Mughal Ghundai lay along the river Zhob in the vicinity of the Fort Sandeman. Probably, the original line of contact of Zhob-culture with the cities of the Indus plains was through the Zhob and the Gomal rivers But this would have been a long and circuitous route. Some of the sites in the Loralai[4] region, however, point to the greater affinity of the Zhob culture with the Loralai than the cities along the courses of the Zhob and the Gomal. The ceramic industry

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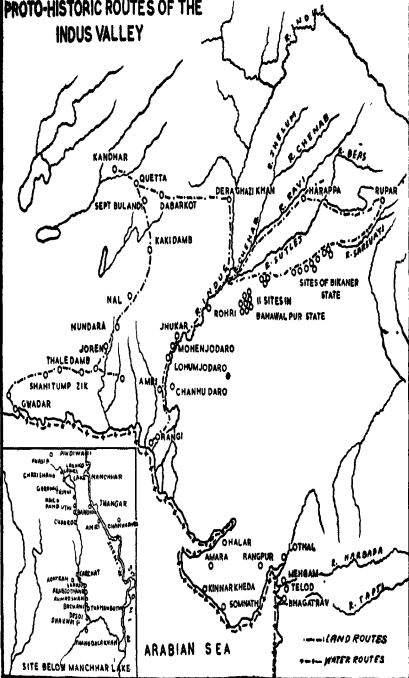
1. *The Leader*, April, 14, 1955. p 3. *Indian Archaeology*, 1955-1956, p. 6. *Early India and Pakistan*, p. 97. S. R. Rao, 'The excvations at Lothal', *Lalit kalā*, Nos 3-4 (1956-57), pp. 84.

2. *Indian Archaeology*, 1957-58, p. 15.

3. In *R V.* X. 75. Kurram is mentioned as Kramu and Gomal as Gomatī. In *Ṛ V.* X, a river is mentioned as Yavyāvatī. This may be identified with the river Zhob *Vedic Index*, Vol. I. pp. 199, 338. A. Stein, *Tour in Waziristan*, p. 2-3.

4. *Tour in Waziristan*, p. 8.

sites like Periano Ghundai, Kaudani and Mughal Ghundai is similar to those of the sites of Rana Ghundai and Mughal kala of Loralai region.[1] At present there exists a highway between Loralai and the Fort Sandeman.[2] Most probably, this was the route, which connected Rana Ghundai and Periano Ghundai. Sites like Mughal Ghundai and Kaudani, as their present situation shows, were connected with Periano Ghundai through the river Zhob. In the Loralai region Rana Ghundai, Surjangal and Dabarkot had connections during proto-historic times with the Indus cities, Dabarkot being the most prosperous trade-centre of the Harappan people.[3] The situation of Dabarkot has an important position on the route between the Indus plains and Kandahar.[4] This route existed even during the mediaeval times.[5] It is probably the same modern route, which runs from Dera Ghazi Khan through Loralai and Quetta to Kandahar. It might have been connected in the proto-historic time to the sites of Zhob valley and those of the Indus plains. It is also quite likely that through this route people of the Indus, established their trade-relations with Quetta—"the Oriental Kimberlay."[6] For the traders of Mohenjodaro, there was, however, another route, which connected Quetta and Mohenjodaro through Bolan pass. From Mohenjodaro the route passed through Jhukar, Limojunijo to Quetta via Bolan. The rivers Nari and Bolan provided suitable passage near the Bolan pass. Between Quetta and Mohenjodaro, most probably, it was the Sibi—Jacobabad Road, which was followed between Jhukar and Quetta. During the historic period many migrant hoards, invaders and merchants traversed this route on their way to and from India to Central Asia.[7]

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1. *Tour in Waziristan*, pp 52–63.
2. Ibid., p. 51.
3. Ibid., pp. 56–57.
4. Ibid., p. 56, *Prehistoric India*, p. 124.
5. *Baluchistan District Gazetteer*, Vol. II, pp. 32–33.
6. *Prehistoric India*, p. 67.
7. *Baluchistan District Gazetteer*, Vol. IV., p. 10.

The people of the Chalcolithic centres of South Baluchistan seem to have had contacts with the cultural centers of the Zhob and the Quetta as well as the Indus valley. Accepting Nal [1] as the pivotal proto-historic centre, its links can be traced with all the main cultural centres of Sind and Baluchistan. The ancient route between Amri and Nal probably passed through Mula pass.[2] At present a route exists between Amri and the Mula pass via Jhau in the vicinity of the Manchhar lake. [3] From the Mula pass, the approach to Nal was not difficult through the valley of the river Nal. The modern system of route in Baluchistan suggests that the present Kachhi-Mashkae-Makran road may represent the proto-historic route between Mula pass and Nal. [4] Near Khogdor, a bye-route might have bifurcated to connect Nal. [5] Stein's tour along this route has discovered a number of proto-historic sites like Chimri (near Khogdor), Kuki damb (Rodinji), Bundakiki (near Kalat) Spet Bulandi (near Mustung) etc. between Quetta and Khogdor. [6]

Most probably the ancient route connecting Nal and Nundara passed along the river Nal and the valley of the river Nundara. Therefore, it can be presumed that modern Gidardor route represents the proto-historic Nal–Nundara track. Probably, this track was further extended to the proto-historic sites near Jhau From Jhau there is route for Las Bela. [7] Stein, after examination of Jhau sites concludes that the position of Jhau sites like Siah-damb can be adequately accounted for partly by the great width of what once was arable ground and partly by the topographical fact that the most direct route from

1. *Prehistoric India*, pp. 72–76.
2. *Explorations in Sind*, p. 153.
3. Ibid., p. 153.
4. *Baluchistan District Gazetteer*, Vol. VI., p. 303.
5. Khogdor is mentioned in connection with the Arab enterprises in the 7th century A. D. *Jhalwan gazetteer*, p. 34. It is situated at a point, where main routes coming from Makran and Sind, from Kandahar and the sea coast meet. A. Stein *Tour in Gedrosia*, p. 13 and Skeleton map of Kalat.
6. *Tour in Gedrosia*, pp. 170–183. Skeleton map of Kalat.
7. *Baluchistan District Gazetteer*, Vol. VI, p. 326.

Las Bela to Mashkae and the eastern part of Makran passed along the line marked by the mounds. [1] On this basis, we can extend the direct relation of Nal with Orangi also. The route between Las Bela and Orangi during the proto-historic times might have passed via Uthal and Sonmiani crossing the river Hab at some convenient fording. [2]

From Nal, the commercial route went to Kulli via Mehi mainly through the tracks which passed along the river Mashkae. Kulli was really an emporium of the Indus people and the chief proto-historic settlement of Kolwa. [3] According to Piggott, though the presence of Harappan traders is evident due to the finds of their actual imports in Kulli, but the connections of Kulli people with the Harappaans were no more than could be provided by the visits of caravans and the occasional sojourn, of merchants in the town.' [4]

Further in the west of Kulli, the caravans of the Harappans must have passed through the Kolwa track and along the rivers Kej and Dashat up to Sutkagendor and Sutka Koh [5] after making regular exchanges of goods in many other markets along the way represented by the important ancient sites like Gurshanak, Chahi damb, Kallong, Zik, Jaren, Ashal, Rodakan, Sajak, Gate damb, Thalo damb and Shahi Tump etc. [6]

Links between Sutkagendor and Orangi, also can be traced. Major Mockler, on the basis of a Baloch tradition [7] informs us that in ancient times Sutkagendor was a port. But at present it is far away from the sea and is not suitable for anchorage. [8]

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1. *Taur in Gedrosia*, p. 137.
2. *Baluchistan District Gazetteer*, Vol. VIII, p. 216.
3. *Tour in Gedrosia*, p. 118.
4. *Prehistoric India*, p. 114.
5. G. F. Dales, 'Harappan outpost on the Makran coast,' *Antiquity*, vol XXXVI, 1962, pp. 86-92. *Prehistory and Protohistory in India*, p. 174.
6. *Tour in Gedrosia*, skeleton map of kalat.
7. *J. R. A. S.*, 1877, pp. 122-26.
8. *Tour in Gedrosia*, p. 71.

PROTO-HISTORIC ROUTES
FOR
IRAN AND MESOPOTAMIA
LAND ROUTES
WATER ROUTES
CASPIAN SEA
PERSIAN GULF
ARABIAN SEA
SHAHTAPE
TURANGTAPE
ASTRABAD
ASHKABAD
MERV
ANAU
TAPE HISSAR
SUBZAWAR
MESHED
NISHAPUR
HERAT
TEHRAN
CHESHMEHALI
KERMANSHAH
HAMADAN
TAPEGIYAN
KASHAN
ISPHAN
SUSA
URUK
UR
BAHREIN
YEZD
SIRAZ
PERSEPOLIS
BUSHIRE
KIRMAN
ABBAS
FARAH
DILARAM
GIRISHK
KANDAHAR
QUETTA
BAMRUD
DELTA
BAMPUR
JHUKAR
MOHENJODARO
CHANHU DARO
GUADAR

Probably it had a subport either at Gwadar or somewhere in the vicinity of Gwadar. The route between Gwadar or Sutkagendor and Orangi passed along the sea coast.

How were the civilizations of the valleys of Euphrates and Tigris on the one hand and the valley of the Indus on the other connected, is not definitely known to us, though several elements of affinity between the two distant civilizations have been indicated beyond doubt.[1] Stuart Piggott opines that the earliest contact with Mesopotamia was with Baluchistan and not with the Indus valley cities. The Harappan contact with the cities of Elam and Sumer developed later i. e. in Early Dynastic times. The trade-relations according to him developed through water routes and not by the land routes.[2] But as K. N. Dikshit points out, it seems probable that the trade intercourse between India and Sumer was both by the land and by the sea.[3] The reason why Piggott does not find the possibility of the existence of land-routes between India and Sumer is that there is no trace of the contacts of Kulli culture further west of Bampur.[4] But, the possibility of direct contact of the Harappan people beyond Bampur is not remote.[5]

Gordon Childe points out that between the twin cultures of Sumer and the Indus there were many populous centres

1. *Indus Civilization*, pp. 84–89. E. Mackey, *Early Indus Civilization*, pp. 146–150. *Prehistoric India*, pp. 110, 117 and 118. F. A. S. Star, *Indus Valley Painted Pottery*, pp 85-87. K. N. Dikshit, *Prehistoric Civilization of the Indus Valley* p. 57.

2. *Prehistoric India*, p. 118. On the evidence of seals the trade-contact between the valleys of the Indus and of the Euphrates and the Tigris, however, can be traced from pre-Sargonid period (before 2350 B.C.) to 1750 B. C. or 1700 B. C. or even later. C. J. Gadd, 'Seals of Ancient Indian Style Found at Ur' *Proceeding of British Academy*, XVIII, (1932). *Indus Civilization*, pp. 90–92.

3. *Pre-historic Civilization of the Indus*, p. 57.

4. *Prehistoric India* p 118.

5. Very superficial search has been made in Iranian proto-historic sites. To hold any definite conclusion, it requires more excavations and explorations of the sites of Iran.

in the oasis of the vast table land of Iran. [1] From the very beginning, the seasonal migrations must have opened various systems of primitive inter-community tracks connecting the far and wide proto-historic centres with one another. The ceramic evidence of the numerous tells in Iran and Siestan point to the existence of inter-communication between the respective sites. On most of these tells and mounds Harappan and Sumerian manufactured articles have been discovered. According to Gordon Childe these were left by the Indo-Sumeerian lapis-traders traversing these settled areas. [2]

On the basis of the present day physical condition of Iran and the systems of routes existing during historic times, it seems that there were two land-routes running parallel between the Indus ambit of commercial towns and the towns of the Sumerians. One of the routes passed from the north and the other from the south of the deserts of Dasht-i-Lut and Dasht-i-Kavir. From the aerial map of F. Schmidts also it appears that a chain of proto-historic sites were situated along these two routes. [3]

Quetta was the most convenient point, from whence the northern route could be followed in those proto-historic days. From Quetta the route passed for Helmand via-Kandahar. [4] At present Kandahar–Herat route goes via Dilaram and Ferah, crossing the Helmand at Girishk. [5] But in those days, as Girishk shows no proto-historic antiquity, it appears that most probably the fording was made somewhere near Kalat-i-Bist and the route passed along down the course of Helmand, for, near its delta there are some proto-historic sites like Sahr-i-Sukhtah, Ram Rud and Kalat-i-gird. From the delta of Hel-

1. V. Gordon Childe, *New Light on Most Ancient East*, 1952, p. 189

2. Ibid. p. 191.

3. Schmidts. *Flight over Ancient Cities of Iran*, Aerial Map No. 1. *Ornaments and Jewellery in Proto-historic India*, p. 191.

4. A. Foucher, *La Vielle Route de L' Inde de Bactres a' Taxila*, Paris, 1942, Vol. I. p. 8. Fig. 3.

5. Ibid., p. 8. Fig. 3.

mand the route passed north along the river Ferah upto the city Ferah and from thence to Herat and Merv via Sabjawar.[1] Merv was an important trade-emporium during historic times.[2] Though no proto-historic site has yet been found along this route between Herat and Merv, very important proto-historic cultural centre is found at Anau. Anau lies in the Merv oasis near Askabad in Russian Turkistan. The stratigraphic data of Anau show that the culture of Anau II was influenced by the cultures of Baluchistan.[3] The situation of Nishapur is very important.[4] From Nishapur, Harappan traders coming from Quetta via Helmand delta and Herat could easily approach Anau. Thus, Nishapur must have been a very convenient junction, through which most probably the proto-historic Hissar-Anau track passed. The links of Anau II are well established with Hissar I and III.[5] From Hissar, the sites like Shah Tepe and Turanga Tepe in the south of Caspian[6] were approachable through a route, which probably passed via Astrabad.[7]

From Hissar the route proceeded for Cheshmeh Aly (near Tehran). A type of loop-pattern on two pottery fragments of Hissar had its occurrence on a contemporary sherd at Cheshmeh Aly.[8] F. A. S. Star opines that this loop-pattern of Hissar and Cheshmeh Aly has same similarity with the loop pattern of the Harappan pottery.[9] It appears that the Harappan loop-pattern had also influenced the pottery designs of the sites near Helmand delta.[10] This point further strengthens the

1. *La Vielle Route*, p. 8.

2. Ibid., p. 8.

3. S. Piggott, *Antiquity*. Vol. XVII, 1943 pp. 172–73. Schmidts. *Histar*, pp. 120, 231. *Indus Valley Painted Pottery.*, p. 86. *Prehistoric India*, p. 68.

4. *La Vielle Route*, pp. 8–9.

5. *Prehistoric India*, p. 58.

6. Ibid., p. 63.

7. *La Vielle Route*, p. 4.

8. *Indus Vallley Painted Pottery*, p. 32.

9. Ibid., p. 30.

10. Ibid., p. 30.

supposition that the proto-historic route between Kandahar and Nishapur passed via Helmand delta and not via Dilaram.

During the historic period Tehran and [Hamadan were connected by trade-routes, both being important commerical towns of the Persian Empire. [1] The proto-historic routes between Cheshmeh Aly and Hamadan probably existed along the historic routes between Tehran and Hamadan. In the South of Hamadan in Luristan there were two important centres—Nehavanda and Tepe Giyan. Tepe Giyan V is comparable to Hissar I and Anau I. [2] During the Early Dynastic period Giyan also had its connection with the Sumerian sites like Al-Ubaid and Uruk. [3] The route between Hissar and Giyan passed via Hamadan. Most prabably the Hissar-Hamadan route also extended up to Sialk via Qum. It seems that the route between Hissar and Sialk did not pass through Tehran and Cheshmeh Aly. [4] Sialk III has its affinity with Hissar I, Cheshmeh Aly and Giyan V. [5] The ceramic traditions of Sialk and Anau also show some parallels. [6] It is possible that they might have been connected with some trade-routes. Moreover Sialk was an important trade-centre in western Iran. At Sialk a perennial spring forms an oasis on the western edge of the desert-basin of central Persia. This oasis is still traversed by an artory of the north-south trade-routes, which might have been in use during the proto-historic times. [7] As it was an outpost of Susan civilization, [8] it seems that a route linked it with Susa. Alabaster weights from Susa have been found at Sialk.[9] Sialk also appears to be the Elamite trade-centre. Gordon Childe states that account tablets inscribed in the proto-Elamite pictographic script and cylinder-

1. *La Vielle Raute*, p. 4.
2. *Prehistoric India*, pp. 57–58.
3. Ibid , p. 57.
4. D H. Gordon, *Man in India*, Vol. XXVII, (1947), p. 217.
5. *Prehistoric India*, p. 57.
6. *New Light on Most Ancient East*, p. 193,
7. Ibid., p. 191.
8. Ibid., p. 191.
9. Idid., p. 196.

seals engraved in the Jemdet Nasr suggest that Susans had occupied the key position on the highway of the north to control the commerce in lapis lazuli [1] of Indo-Sumerians. Grey ware of Sialk (Sialk IV) is comparable with that of Hissar II and Jemedt Nasr. Beak-spouted jugs further suggest Sialk's contact with Susa and Uruk. [2] But the most important commodity is a hair pin with double scroll head found in the Indus valley, at Anau and at Hissar. [3]

Susa was an important trade-centre having affinity with Sialk, Giyan, Hissar, Al Ubaid, Uruk and Jemdet Nasr. [4]

There was another route connecting Sialk with the sites of Baluchistan through Kirman. This route might have passed via Bampur to Shahi Tump. [5] Probably, a bye-route also connected it with Kandahar and Quetta. D. H. Gordon opines that the most ancient route, which existed between Giyan and Kandahar passed via Qum, Sialk (near Kishan) and Kirman. This route from Kirman proceeded due east to Siestan aviding the Helmand river and passing by Gaud-i-Zirreh and Kalat-i-Bist, the traditional gateway of India for Kandahar plains [6], which opened passage for Quetta also.

Shahi Tump was really in contact with east as well as west. [7] Harappan traders from Sutkagendor took the route for Bampur, the traditional capital of the Persian Baluchistan, via Damb-Kot-[8] a proto-historic site, which probably had trade-relations with Kulli and Zhob. [9] Thence the route ran through the hills of Makran probably via Gej and Jiruft. Stein has pointed to the pre-historicity of Bampur and has discovered jars 'not unlike

1. *New Light on Most Ancient East*, p 196.
2. Ibid, p. 195.
3. Ibid., p. 196.
4. *Prehistoric India*, p. 57.
5. A. Stein. *Archaeological Reconnaissance in North West India and South Eastern Iran*, p. 105.
6. *Man in India*, Vol. XXVII, (1947), p. 217.
7. *Tour in Gedrosia*, pp. 88–89.
8. *Archaeological Reconnaissance*, p. 105.
9. Ibid., pp. 76–78.

those found at Periano Ghundai.'[1] Besides, this site has yielded various other fragments of pottery, which bear resemblence to those of the Chalcolithic sites of Kulli, Mehi, Nundara in southern Baluchistan and Zhob in northern Baluchistan. The proof that between Bampur and Kulli there existed a route through Shahi Tump can be found in the use of raised wavy lines of pottery fragments found at Bampur and at Sahi Tump.[2] Moreover, ibex design, the most characteristic feature of Bampur pottey also appear on the pottery of Kulli, Karchat, Shah-jo-Kotro, Chanhudaro [3] etc.

Up along the Bampur river there were other sites of similar antiquity like Khurab, Katukan and Damin near Iranshahar. Pottery fragments of these placesalso show similarities with those of Bampur, Nal, Diz Parom and other sites of northern Baluchistan, Makran and Siestan.[4] Some pottery designs of Bampur and the kindered sites are similar to those of Susa. The pottery of Khurab also bears similarity to the ceramic decoration and form of those of Shahi Tump. [5] Likewise the camel-headed hairpin and gold mounted beads of the site of Bampur suggest their affinity with similar finds from Mohenjodaro. [6]

Beyond Bampur the route passed along the river Hilal-rud and approached Kirman. Along this river an important site of the same antiquity as Bampur has been found near Bijnabad. From Kirman this route passed for Sialk probably via Yezd, Ardkan and Ardristan,

There is yet another series of proto-historic settlements near Persipolis, This group of sites may be called as Bakun culture. This culture embraces all the sites of that area including Dehbid in the north, Tell-i-Pir, Hirai, Tell-i-Regi (Kamalabad) Fasa and Khusu in the south. It also appears to have influenced the

1. *Archaeological Reconnaissance*, pp. 106.
2. Ibid., pp. 109–110.
3. *Man in India*, Vol. XXVII. p 219.
4. *Archaeological Reconnaissance*, p. 114–19.
5. Ibid., p. 122.
6. Ibid, p. 141.

sites situated round lake Niriz. Similarly Tell-i-Iblis near-Kirman shows the traces of the influence of Bakun culture.[1] All these sites incluaing Tell-i-Iblis can be compared to Giyan V, Sialk III and Susa I.[2] Some fragments of pottery from Bakun are also similar in design to those of Quetta.[3] This suggests that the Bakun series of sites had regular intercourse with Quetta in the east and Sialk, Giyan and Susa even up to Halaf and Samarra in the west.[4] As Tell-i-Iblis derive cultural influence from Bakun as well as Kirman, a line of communication must have existed between Quetta, Kirman, Tell-i-Iblis and Bakun. But the main route, however appeas to have passed along Susa, Giyan, Sialk, Dehbid, Bakun, Fasa, Tell-i-Pir upto Haraj.

During the historic period the two Achaemenian kingdoms, Persipolis and Susa were connected by a road. Stein has pointed out the existence of a route between Persipolis and Susa via Shiraz. He states 'there was good reason to believe on geographical grounds alone that this route, still a mere caravan track as of old, had served also in ancient times as the chief line of communication between Susa and Persis.' There can be little doubt that this was the route, which Alexander followed on his rapid movement from Susa to Persipolis.[5] Though the proto-historic antiquity of Tell-i-Bakun (near Persipolis) and Susa cannot be doubted, our information about the communication between Tell-i-Bakun and Susa via Shiraz is not sufficient to draw the line of the route with any amount of accuracy. Stein's tour in this region along the road has hardly anything to show the proto-historicity of the route traversed by Alexander in his campaign against Persipolis from Susa. In historic times, as Stein suggests, the route between Shiraz and Susa passed through Ardakan, Fahlium, Basht, Behbehan, Bulfariz and Malamir.

1. *Man in India*, Vol. XXVI, (1947), pp. 211-19.
2. Ibid., p. 217.
3. *New Light on Most Ancient East*, pp. 190-91.
4. Ibid., p. 198.
5. A, Stein, *Old Routes of Western Iran*, p. 11.

Susa, since very early times had intercourse with the proto-historic cultural centres of the Indus valley, [1] Iran and Mesopotamia. [2] The main routes, which went from India either via Kirman or Hissar had their junction at Hamadan or Giyan. From Giyan the traders could approach Akkadians and Sumerians most probably via Kirmanshah. From Kirmanshah a route passed for Tell Asmar, Khafaje and Khorsabad. Another route for Sumer from Giyan and Nehavand presumably passed via Susa. Susa and Musyan in Elam were perhaps connected with Ur. Pottery of Ur have been discovered at Susa and Musyan.[3] Steatite vases from Kish are similar to those of Susa and Mohenjodaro.[4] These evidences show that trade-contacts with India actually existed with Kish, Susa and Ur.

Tell Asmar was really an important emporium of Indian goods as the excavations at Tell Asmar have produced a group of important Indian objects in a well dated archaeological context. [5] Most important evidence of contact between the Indus valley and Tell Asmar is the cylinder seal, which reached there in 2,500 B. C. [6] Some of the other Indus valley commodities imported in Tell Asmar were etched carnelian beads, kidney shaped inlays of bone and knobbed pottery. [7] Affinity between the Indus valley and Tell Asmar can also be established on the basis of other seals [8] and architectural traditions [9] of Tell Asmar.

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1 F. A. S. Star has noted Harappan relationship with Susa I and II on the basis of pottery designs. *Indus Valley Painted Pottery*, p 86.

2. *Prehistoric India*, p. 58.

3. L. Wooley, *The Sumerians*, p. 9.

4. *Annual Bibliography of Indian Archaeology*, (1932), Vol. VII. p. 4.

5. *Tell Asmar Khafaje and Khorsabad*, Seeond preliminary report on the Iraq expedition, p 53.

6. *Annual Bibliography of Indian Archaeology*, (1932) Vol. VII, p. 4.

7. Ibid., p. 4 *Early Indus Civilization*, pp. 147–48.

8. Frankfort. *Stratified Cylinder Seals from the Diyala Region*, pp. 45-46

9 *Annual Bibliography of Indian Archaeology*, Vol. VII. pp. 4–12,

From Tell Asmar, the traders of the Indus could approach the various markets of Mesopotamia like Kish, Jemdet Nasr, Lagash, Uruk, Al-Ubaid, Ur etc. Similarly on a northward journey mostly along the upstream of the Tigris the traders from Tell Asmar reached the towns like Samarra, Nuzy, Tepe Gawara, Nineveh, Kish and Ur [1], which were relatively great markets of the Indus valley goods, and from these places direct or indirect distribution of goods was possible in the cities of Mari, Chagar Bazar and Halaf. These cities thus controlled the economy of the region.

Distribution of the Indus commodities was not probably confined to the markets of Sumer and Elam, but directly or indirectly they reached the cities of Anatolia, Crete and Greece.[2] The Indus people also sent their commodities to the markets of Egypt. Some beads of unusual shape appear to have been exported to Egypt from the Indus valley. [3] Another example of link between the Indus and Egypt can be seen in the hemispherical copper or gold terminals of some of the strings of beads found at Mohenjodaro and Harappa. [4]

These Indus commodities reached the markets of Egypt, perhaps through the intermediaries of Sumer. The maritime contact between the Sumerians and the Egyptians is an established fact. [5] Perhaps, these Sumerians were responsible for extending the commercial relationship of the Indus valley towards Anatolia and the Mediterranian region also. [6]

Sumerians had a tradition that their ancestors came from the east through a maritime route. [7] Some seals of the Sum-

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1. Sixteen seals of the Indus style has been found at Ur. *Indus Civilization*, p. 84.

2. Ibid., pp. 97–89.

3. *Early Indus Civilization*, p. 149

4. Ibid, p. 150.

5. *The Sumerians*, pp. 46–47. *Ur Excavations* Vol. II, pp. 390–396.

6. Sumerians had trade contacts with Asia Minor, Anatolia and Mediterranian region. L. Wooley. *Ur Excavations*, Vol. II, p. 398.

7. *The Sumerians*, p. 7.

erians depict their gods above wavy lines. [1] Frankfort suggests that the wavy lines are indicative of the fact that these gods were brought from their original home through a water-route. [2] On ethnic basis it has been suggested that proto-Indians were present in Sumer and they might have come from India. [3] The maritime route, by which the Indians could have reached Sumer must have been coastal. But, as most of the Makran-India coast remains unexplored, no definite line of communication can be traced. It is, however, proved beyond doubt that Lothal was a principal port in Kathiawad at the head of the Gulf of Cambay on the west coast of India. During recent excavations S. R. Rao has discovered a dockyard at Lothal. The dockyard is a huge brick-lined enclosure situated on the east of the town by the side of a mud-brick and mud-built rampart. Roughly trapezoidal in plan, from north to south it measures nearly 710 ft. and 120 ft, from east to west. Built with baked bricks its extant height is 14 ft., but it might have been originally much higher. There is a large opening about 23 ft. wide in the wall on the eastern side. This is believed to be the inlet channel, whereas on the south, there is a smaller opening called 'spill channel' which might have been for regulating the overflow of the water by the insertion of a wooden door in the grooves provided at the mouth. [4]

Lothal has yielded a circular steatite seal, which closely resembles the seals from the Persian Gulf Islands found by the Danish expedition led by Glob and Bibby. [5] The principal

1. *Cylinder Seals*, Pl. VI. *Stratified Cylinder seals from the Diyala Region*, Pl. 80. No. 153 and 854

2. Ibid , pp. 15–16.

3. A. Keith, *Al Ubaid*. p. 216. H. R. Hall, *Ancient History of Near East*, pp. 173–174.

4. S R. Rao, 'Excavations at Lothal', *Lalit Kalā*, Nos. 3-4 (1956-57) p. 84. *Pre-history and Proto history of India*, p. 165.

5. S.R. Rao, 'A Persian Gulf Seal from Lothal', *Antiquity*, Vol. XXXVII, No. 146, 1963, p. 96. Glob. P.V., 'Excavating a Bahrain, Citadel of 5000 years age and sea links with Ur and Mohenjodaro', *Illustrated London News*, January 11, 1958, pp. 54–55. *Antiquity*, Vol. XXXII, 1958, pp. 243–246.

ancient settlement on Bahrain was at the northern end of the island at Ras al Qala.[1] This island, according to Wheeler, was one of the coastal *entrepots* between the Gulf of Cambay and the head of the Persian Gulf.[2] Bahrain island in the Persian Gulf was known in the proto-historic days as Telmun.[3] Excavations at Telmun or Bahrain establish a few links with Mesopotamia and with the Indus.[4] A study of the Lothal seal and the seals from Bahrain aptly named by Wheeler as 'Persian Gulf seals'[5] indicates the existence of a coastal route between Lothal and Bahrain. This route from Lothal might have reached Orangi, the last outpost of the Harappans in the Sind. From Orangi the route was extended to Sutkagendor and Sotka-Koh, which were no ordinary ports on the Arabian sea. At present they are not on the sea coast, but their situations, in those days, were in the ideal strategic positions to control traffic between the coast and the interior on one hand and to serve as intermediate outposts for coastal sea trade with the west and also with coastal Gujrat on the other.

Leemans found two words 'Magan' or 'Makkan' and 'Meluhha' inscribed on clay tablets from the city of Ur. He and Glob identified Magan or Makkan with the coast of Makran and Meluhha with the coast of Western India including Sind and Saurāstra.[6] This identification was further endorsed by A. L. Oppenhim.[7] Traders from Meluhha and Makkan approached

1. *Early India and Pakistan*, p. 110.
2. Ibid., p. 111.
3. A. L. Oppenhim, 'The seafaring merchants of Ur', *J.A.O.S.*, 1954, pp 6-7.
4. *Early India and Pakistan*, p. 110.
5. Ibid, p. 111.
6. Leemans, W. F., 'The Trade Relations of Babylon,' *Journal of the Economic and Social History of the Orient*, Vol. III, (1960), pp. 20-37. For Glob's view, *Illustrated London News*, January, 11, 1958.
7. *J. A. O. S.*, Vol. 74 (1954), pp. 6-16. For other views regarding the identification of Makkan and Meluhha, see M. E. L. Mallowan, 'The Mechanics of Ancient Trade in Western Asia,' *Iran*, Vol III, pp. 1-7.

Telmun on Bahrain Isle and exchanged their goods with the traders from Ur. Telmun was an important servicing station and intermediary mart. From Telmun or Bahrain Harappan traders, who wanted to have direct approach to Mesopotamian markets, sailed for some proto-historic ports near Bundar Abbas and Bundar Bushır. Bundar Bushır was an important proto-historic site and had contacts with Susa.[1] From Bundar Bushir, Ur was approachable through a coast-wise journey along the northern coast of Persian Gulf. Ur at present lies far from the sea. But in those proto-historic days, as the map of Babylon by H. R. Hall shows, it was situated near the coast of Persian Gulf.[2]

Ur was the principal port for entry into Masopotamia between 2350 B. C. and 1700 B. C.[3] During this period Mesopotamian and Indian traders, (sometimes through the agencies of middlemen, such as of Bahrain as noted by the individual characteristic of the seals found there)[5] imported into Ur various Indian commodities like gold, silver, copper (in great quantity), lapis lazuli in lumps, stone beads, ivory combs and ornaments and inlays, eye-paint, certain kinds of wood and perhaps pearls (fish eyes).[3] Most of these commodities were the local produce of Mohenjodaro, Harappa and Lothal. Lothal was the main mart, which exported copper and ivory to Ur, Kish, Lagsh, Tell Asmar, Susa, Diyala etc.[6]

Wheeler has traced the history of trade-contact through coastal route between Ur and the ports of Indian coast.[7] According to him in the time of Sargon of Akkad (c. 2350 B. C.) Ur

1. M. Pezard, 'Mission a' Bunder Pouchir', *Documents Archaelogiques at Epigraphiques*, Vol. XV, pp 1-38. *Ornaments and Jewellery in Proto-Histor e India*, pp. 170-171.

2. *Ancient History of the Near East*, map of Babylon facing, p. 172.

3. *Early India and Pakistan*, p. 108.

4. S R. Rao, *Antiquity*, Vol. XXXAII, No. 146, 1963, pp. 99-100.

5. A L, Oppenhim, *J. A. O. S.*, 1954, p. 12. Frankfort, *Studies in Early Pottery*, pp. 138 ff. *Early India and Pakistan*, p. 109.

6. S, R. Rao, *Antiquity*, Vol. XXXVII, No. 146, 1963, pp. 98-100.

7. *Early India and Pakistan*, pp. 108-109.

had direct trade contacts with Meluhha, Makkan and Telmun. In this period, traders from Meluhha (western coast of India) were either directly approached by the Sumerians, or they themselves went to Mesopotamian markets like Ur. In the second stage, under the 3rd Dynasty of Ur (c. 2100 B. C.), Meluhha was now out of direct approach and trade-relations of Ur were sustained directly with Makkan and Telmun.[1] In this period, it seems that trade between India and Sumer was mainly controlled by the traders of Makran and Bahrain. The reason for such a dwindling in case of west Indian coast is difficult to explain. It may, however, be pointed out that though trade relations of Meluhha with the traders of Ur are not proved, it is beyond doubt that the merchants of Lothal traded with the Persian Gulf merchants in the latter half of the third millennium B. C.[2] Therefore, it can be supposed that though Indians did not go to Sumerian markets directly, particularly through sea-routes, they sent their commodities to the mart of Ur through the traders of Bahrain, who were , in those days active as middlemen.

In the third stage of Indo-Sumerian trade, Telmun traders monopolized the role of middlemen and excluded not only the traders of Meluhha but also of Makkan.[3] This was the state of affair between the fall of Larsa Dynasty (C. 1950 B. C.) and the decline of Hammurabi Dynasty (c. 1700 B. C.). After 1700 B C., even the traders of Telmun lost the commercial contact with the traders of Makkan as well as of Meluhha. The reasons for such a fall in the Indo-Sumerian maritime trade, however, may be looked into the general causes of the fall of Harappan civilization.

1. *Early India and Pakistan*, p. 108.
2. S.R.Rao *Antiquity*, Vol. XXXVII, No. 146, 1963, pp. 96–97.
3. *Early India and Paksitan*, p. 109.

CHAPTER IV

INTERNAL AND COASTAL TRADE-ROUTES OF INDIA

After 2000 B. C. it seems that the commerce of the Harappans lost its security and their cities fell into the hands of some invading hordes. The period between 2100 and 1800 B. C. was perhaps a period of unrest throughout Western Asia and adjacent countries.[1] It seems that an attacking horde ravishing the countries from Anatolia to Elam and from Elam to the Indus Valley blocked the commercial routes between India and Western Asia dislocating the thriving commerce of the Harappans. Scholars, mostly on circumstantial evidence observe that these attacking hordes were of the Āryans.[2]

The invading Āryans, coming either by the way of Kandahar or Shahi Tump, destroyed abruptly the Harappan trade settlements of Kulli, Nal and Periano Ghundai.[3] The hordes coming via Kandahar and Bolan conflagrated Periano Ghundai and settled for sometime at Jhukar. But those coming via Khurab in Persian Makran, took Shahi Tump in the Kaj Valley of Baluch-Makran. From Jhukar the Āryan invaders attacked Lohumjodaro and Chanhudaro. At both the cities the invaders (Jhukar-people) have left a bulk of material reminiscent of invasion.[4] It seems that the Āryans could not destroy the city of Mohenjodaro before they captured the town of Chanhudaro.[5] It is also likely that the city of Harappa fell at the hand of some other group of the Āryan invaders (other than the Jhukar-

1. *Pre-historic background*, p. 77.

2. Ibid., p. 78. *Indus Civilization*, pp. 90-91.

3. Due to this invasion, throughout Baluchistan the Painted Pottery Cultures of Kulli, Nal and Periano Ghundai came to an abrupt end. *Pre-historic background*, pp. 79-80.

4. *Pre-historic background*, p. 80.

5. Ibid., p. 80.

people) prior to the destruction of the city of Mohenjodaro.[1] Mohenjodaro, even after its fall at the hands of the Āryans, did not become one of their settlements, as no evidence of occupation of Jhukar-people has yet been found at Mohenjodaro.[2] Most probably the attack of the Āryans on Mohenjodaro was fatal; it completely destroyed the city by breaking the dams originally constructed by the Indus people to protect the water for irrigation.[3] But, as the occupation of Jhukar-people is not proved even at Harappa, it may be presumed that while one group of the Āryans attacked Jhukar and Lohumjodaro, some other group of the Āryans captured Mohenjodaro and Harappa. It may be pointed out that the eastward advance of the Āryans seems to be of those, who occupied Harappa and of the people, who attacked Chanhudaro. The Ārayns, who attacked Harappa, most probably came via Kandahar and Bolan pass and settled in the valleys of Suvāstu (Swat) Gaurī, Kubhā (Kabul) Krumu (Kurram) Gomatī (Gomal) and Yavyāvatī (Zhob).[4] But, finding the region not very suitable for settlement, the invaders might have come down to the plains of the Indus via Dera Ghazi Khan[5] or through the valleys of Tochi, Gomal and Kurram.[6] It has been suggested that the mention of the Suvāstu, the Gaurī and the Kubhā rivers in the *Ṛgveaa* may indicate that the Āryans entered India through the western passes of the Hindu-Kush.[7] Khyber is supposed to be the most convenient pass, through

1. *Pre-historic background*, p. 80.

2. Ibid., p. 80.

3. D. D. Kosambi points out that in the hymn where there is reference that Indra freed streams indicates that Indra removed artificial obstacles coming in the way of streams to the river dams mentioned by Marshall as existing to the west of Mohenjodaro and that by breaching these dams the invaders destroyed the basic agriculture of the city. D. D. Koasmbi *J. B. B. R. A. S* , 1951, Vol, XXVI, (new series), pp. 46-47.

4. *R. V.* VIII. 19. 37. VI. 27. 6. X.75.6. *Tour in Waziristan*, p. 2.

5. Supra., p. 34.

6. *Pre-historic background* p. 94.

7. *Cambridge History of India* Vol. 1, p.78.

which the Āryans might have entered the plains of the Punjab.[1] A. Foucher has opined that like later invaders the Āryans, too, entered India by a route, which might have passed through "Bactria Bamyan, Kapisā, Puṣkalāvatī, Udabhāṇḍa and Takṣaśilā".[2] He has argued that people from the earliest times preferred this route (*Grande Route*) because while other routes conneeted the two deserts—the desert of Persia and the desert of Sind, the *Grande Route* crossed the beautiful valleys of Chitral, Swat and the Indus.[3]

Though it may be accepted that the Āryans, after their settlement in the Punjab, might have opened a new route through the pass of Khyber to connect India with Bactria and to maintain their tribal relationship with the Āryan communities of the Gandhāris and the Mūjavant settled on the south bank of the river Kubhā (Kabul),[4] which later on, became the main route between India and Bactria, it is not possible to hold that the raiding Āryans, who were coming from the Iranian plateau, instead of following comparatively easy route through Kandahar and Bolan or the proto-historic route via Makran, would have taken a difficult route via Khyber or any oher route passing through Hindu Kush.[5] Moreover, Stein's explorations in the Swat region, in Waziristan and in North Baluchistan do not show the proto-historic antiquity of the above mentioned region. It can also be proposed that as Baluchistan and Sind fell in the hands of the Āryans[6] earlier than the cities of the Punjab, the route of the Āryan invasion was perhaps not through the Khyber pass.[7]

1. Rapson, *Ancient India*, p. 30
2. *La Vielle Route*, Vol. I. p. 47.
3. Ibid, Vol. I, p. 47.
4. *Vedic Age*, pp. 241, 259.
5. *Pre-historic background* p. 94.
6. Supra., pp. 50–51.
7. A. F. R. Hornle, George Grierson and Herbet Risley had proposed that after the first steram of Āryan invaders has settled in the Punjab, a second band of the Āryans from Central Asia, finding the usual route by the Kabul Valley barred, pushed their way through Gilgit and Chitral,

The extensions of the Harappa civilization have been found in the East Punjab and Uttar Pradesh, and in the North Rajputana in the former State of Bikaner, in Kutch and almost all over Saurāṣtra, and Central and Southern Gujrat as far as Surat, and in the west not only at a number of places in Baluchistan but right on its sea coast.[1] In such an extensive area, besides a few variations, there existed several elements of cultural affinity and uniformity of various aspects of civilization such as town planning, pottery, seals, ornaments, weights etc.[2] But though such unifying factors were active in those cultures, the questions still remain how and why did the Harappan culture spread eastwards and southwards ? Was it a peaceful advance, in the natural course of events, towards the fertile plains of the Ganges ? Or did the Harappan flee as refugees before some invader ? None of these questions can be answered satisfactorily for want of adequate evidence.[3]

It is, however, likely that the Harappan culture in the East Punjab at Rupar and several sites in Bikaner including Kalibangan met with an abrupt end, while, in Saurāṣtra Lothal and Rangapur besides several others, it flourished with maturity for some time and later on became slowly degenerated being dominated by some other cultural factors.[4] In the East Panjab and Bikaner, Harappans were forcibly dominated by a people represented by the Painted Grey Ware, who accordiug to B. B. Lal, on circumstantial evidence, may be identified with the Āryan people.[5]

From the study of the topography of the Harappan settlements in the East Punjab it is felt that the Harappans after the

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keeping close to the northern mountain and enterd like a wedge into the midland country or Madhyadeśa. *Imperal Gazetteer*, Vol. I, p. 361.

1. Ibid., p. 155.
2. *Pre-history and Prato-history in India*, p. 155.
3. Ibid., p. 156.
4. Ibid., p. 156.
5. *Ancient India*, No. 9, p. 93.

fall of their citadels at Harappa and Kalibangan proceeded into the hilly terrain along the valley of smaller rivers.[1] Rupar is the most important site in this respect; it has yielded very significant evidence regarding the relationship between the Harappan culture and the later Painted Gray Ware Culture. As at Kalibangan in the Ghagghar Valley, at Rupar also the Harappans occupied the site earlier and the Painted Grey Ware using (Āryans) later.[2] The routes from Harappa to the cities in the Ghaggar Valley and to Rupar were probably safe. The Harappan refugees took shelter for sometime in the Ghaggar Valley and Rupar, and then, probably being chased by the Āryans using Painted Grey Ware, left these places also and took shelter in the interiors of hilly regions or in the Gaṅgā-Yamunā Valley. To those Harappans, who settled in the Gaṅgā-Yamunā Valley, the authorship of the Copper-Hoard Culture may be ascribed. They were using a class of Ochre-Wash Ware.[3]

In the south, the route of early racial migration is not very clearly known, hence it has been difficult to trace the line of early routes. Recent excavations reveal several chalcolithic centres of Rajputana, Central India, Saurāṣtra and Deccan. In the Deccan, traces of a culture having important common features with that of Malwa were recovered at Nasik and Jorwe.[4] The fabrics of the pottery from Nagda, Prakash and Bahal on the south seem to be closely related; each has some peculiarity in forms, fabrics and designs of its own. On the basis of pottery fabrics, types and decorations H. D. Sankalia proposes the following groups of cultures[5]:—

(1) Jorwe-Nevasa or Godavari-Pravara Valley.

(2) Bahal or Girna Valley.

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1. *Pre-history and Proto-history in India*, p. 156.

2. Ibid., p. 157. *Ancient India*, No.9, p. 96.

3. Ibid., No. 9, p. 93.

4. H. D. Sankalia. *The Excavations at Maheshwar and Navdatoli*, 1952-1953, p. 244.

5. H. D. Sankalia, *From History to Pre-history at Nevasa*, (1954-56) p. 467.

(3) Prakash or Tapti Valley.
(4) Navdatoli-Maheshwar or Narmada Valley.
(5) Nagda or Chambal Valley.
(6) Chandoli-Koregaon or Bhima Valley.
(7) Maski, Piklihal and Brahmagiri.
(8) Nagarjunikonda or Krishna Valley.

The existence of such cultural groups along the river sides suggests the possibility of the regional development of trade-routes along the old river-valleys. The possibility of occasional contacts among such groups is also not very improbable. For instance, the sites in Malwa were definitely in contact with the sites in the Deccan.[1] Similarly, it would not be difficult to point out links showing relationship of Malwa and Deccan with the sites of Saurāṣtra and Rajputana. Particularly, we are sure about the contact of Ahar culture in Rajputana with the cultural centres at Nagda, Navdatoli and Bahal.[2] The position of Navdatoli and Maheshwar, in the vicinity os Ujjain, was very congenial for the development of trade-routes connecting Deccan, Malwa and the Gaṅgā-Yamunā *doab*.

J. Kennedy has limited the first stage of the Āryan advance in the Sapta Sindhu to the river Śatadru (Sutlej). He says that by this time they had established their political and tribal influence over the valley of Kabul also.[3] Probably during this period (a little after 1500 B. C.) the Āryans opened the route between India and Bactria through the pass of Khyber and the velley of Kabul. Since then, this route became the main route between India and the Western Asia and the significance of Kandahar and Makran routes cosiderably dwindled.

The migration of the Āryans from Śatadru to the valley of Sarasvatī and Dṛsadvatī marks the second stage of the Āryan advance[4] in the east. The period preceding 1500 B. C. was

1. *Excavations at Maheswar and Navdatoli*, p. 249.
2. *Pre-history and Proto-history of India*, p. 187.
   Early India and Pakistan, pp. 140, 142-44.
3. *J. R. A. S.*, 1919, p. 507.
4. Ibid., 1919, p. 507.

very difficult and insecure for commercial activities. Under the leadership of Indra, the Purandara[1] (destroyer of cities), the Āryans destroyed ninety[2] cities of the Sapta Sindhu, which must have resulted in the destruction of many internal routes and cousequent dislocation of trade emporiums. But afterwards, when the Āryans had dispelled their opponents from the Sapta Sidhu, they began to take interest in urban pattern of life[3] and in commercial activities.[4] They no longer depended now on the natural tracks; they converted them into proper trade-routes. We are told in the *Ṛgveda* that Marut made routes by breaking the hillocks standing in the way.[5] It appears that routes ware also made by burning down the trees, as can be inferred from the reference in the *Ṛgveda* that Indra is hailed as one, who makes the routes by burning down the forests.[6] Agni is also praised for introducing the art of navigation among the Āryans.[7] Agni as a metter of fact, has been regarded by the Āryans as the chief deity creating the routes (*patha kṛt*).[8] Besides Agni and Indra, there were other gods also, who in one way or the other protected routes and facilitated travelling. Soma[9] and Pūṣan[10] are held as the guardians of road and Marut[11] as a good facilitator of travellers. Though there is no doubt that these verses have allegoric references, they ceramly show that among the Vedic Āryans the significance of the road was fully realised and that they anxiously invoked gods for the protection of routes. Their routes were not in their primitive con-

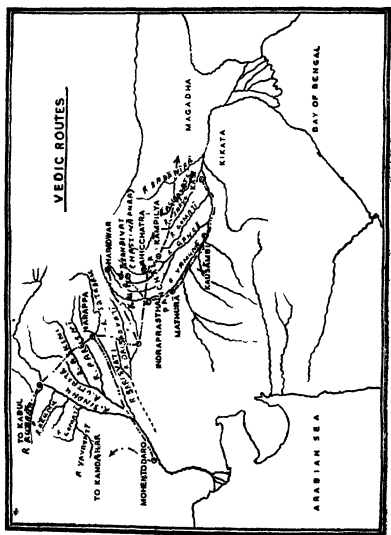
1. *Indus Civilization*, pp. 90–91.
2. Ibid., pp. 90–91.
3. Ibid., pp. 90–91.
4. *R. V.*, I. 112. 11, I. 33, 3; IV. 25. 7, IV. 24. 9, X. 34. 3, etc.
5. Ibid., I. 45. 6, II. 34. 5.
6. Ibid, I. 140. 9.
7. Ibid., II. 13. 5.
8. Ibid., VI. 21. 12. *A. V.*, XVIII. 2. 53.
9. Ibid., XVIII. 2. 53.
10. *R. V.*, I. 43. 3, 6, 8, III. 62. 13., VIII. 28. 6.
11. Ibid., I. 46. 5. II. 34. 5.

dition, were well built and without dust.[1] The travellers of Vedic times wished that their routes might be free from thorns so that they might go straight[2] to their destination. The commercial significance of the routes was recognised in the *Atharva Veda*. It was desired from the Earth that the many roads they take for their commerce might be free from enemies and robbers and that they be graciously favoured with all that was propitious.[3]

Unfortunately, however, we know nothing about the system of routes of the early Vedic India. The third stage of the Āryan's march was, of course, very important for the history of Indian trade-routes. Further easterly march of the Āryans probably began with the partial disappearance of the Sarasvatī. The bulk of the Āryan people then perhaps left the bank of Sarasvatī and established their colonies in the *Janapada* of Kuru Pañcāla.[4]

A tradition about Videgh Māthava indicates that, followed by his priest Gautama Rāhugaṇa, he conducted the sacrificial fire from the river Sarasvatī to the river Sadānīrā.[5] This tradition may indicate the opening of the routes from Sarasvatī to the Middle country. There is, however, no indication in this tradition about the actual course of the route followed by them. The *Śatapatha Brāhmaṇa*, in which this tradition is preserved, mentions some of the towns like Āsandivat[6], Pañcakra[7], Kām-

1. *R. V*, 1. 35. 11.
2. *A. V.*, XIV. 1. 34.
3. Ibid., XII. 1. 46.
4. *Ait. Brā.*, XXXVIII. 3. *Vedic Index* Vol. I, p. 169.
5. *Sat. Brā.*, 1, 4. 11-17. (*S. B. E.*) Vol. XII, p. 104.
6. Āsandivat was the capital of Janamejaya Parikṣit. It was in Kurukṣetra and may also be identical to Nāgasāhavya (Hastināpura) *Śat Brā.* XIII.5.4.2. and also *Ait. Brā.* VIII, 21. *Vedic Age*, p. 281. G. C. Avasthi, *Veda Dharātala*, pp. 57-58. *Vedic Index*, Vol. I. p. 72.
7. *Śat. Brā.*, XIII. 5. 4, 7, Weber identifies it with Ekacakra, *Vedic Age*. p. 251. *Vedic Index* Vol. I, p. 494 *Veda Dharātala* pp. 404-410.

VEDIC ROUTES
MAGADHA
KIKATA
BAY OF BENGAL
ARABIAN SEA
TO KABUL
TO KANDAHAR
MOHENJODARO
HARAPPA
HARDWAR
AHICCHATRA
KAMPILYA
INDRAPRASTHA
MATHURA
KAUSAMBI

pilya[1], and Nimiṣā[2]. Indraprastha and Ahicchatra were also the places contemporary of Āsandivat. Indraprastha, Hastināpura, Ahicchatra and Kāmpilya[3] have yielded Painted Grey Ware, which has been assigned by the archaeologists to the culture of the Āryans, who invaded the Gangetic plain after the fall of the Harappans.[4] These cities mentioned in the *Śatapatha Brāhmaṇa* and represented by Painted Grey Ware, were probably founded after Videgh Māthava had opened the line of communication between the river Sarasvatī and the Sadānīrā. Therefore, it may be sugggested that Videgh Māthava starting from the banks of Sarasvatī (some sites of Ghagghar valley have yielded Painted Grey Ware)[5], might have crossed the river Yamunā, somewhere near Indraprastha. From there he might have gone to the city of Āsandivat and Hastināpura. Both the cities soon became important centres of the Āryan culture. From Āsandivat the route passed to Kāmpilya, either along the course of Gaṅgā or via Ahicchatra and Paricakra. From Kāmpilya the route for Nimiṣā was not difficult and from there Videgh Māthava might have approached the bank of Sadānīrā by taking a north-eastern route and crossing the rivers Gomatī, Saryū, Acirāvatī[6] etc.

Another route mentioned in the *Śatapatha Brāhmaṇa* and belonging to the Painted Grey Ware period[7] also can be traced,

1. *Śat. Brā.* XIII. 2. 8. 3.

2. *Vedic Age*, p. 252.

3. *Ancient India*, Nos. 10–11, p. 150.

4. *Early India and Pakistan*, p. 28.

5. Ancient India, Nos. 10–11, p. 139.

6. It is said that Videgh Māthava marched towards the river Sadānīrā by burning over all the rivers between Sarasvatī and Sadānīrā (*Śat. Brā.*, 1.4.1.14.). From this, it can be inferred that Videgh Māthava probably forded or crossed the rivers coming in his way to adopt a direct route in the Gangetic valley between the rivers Sarasvatī and Sadānīrā.

7. Date of Painted Grey Ware has been assigned by B. B. Lal as between 1500–500 B. C. *Ancient India*, Nos. 10–11, p. 139. This date has been confirmed by C. 14 test. *Current Science*, 1964, Vol. 33, No. 9,

which ran mostly along the courses of Yamunā and Gaṅgā. Thus, from Rupar (Rupar and its neighbouring sites have yielded Painted Grey Ware in large quantities)[1] this route might have come to Indraprastha and Mathurā via Panipat, Tilpat and Bagpat—all yielding Painted Grey Ware.[2] From Mathurā, this route following along the course of Yamunā might have come to Kauśāmbī.[3] In later period, from here, a route went to Vidiśā in the Vidarbha. The existence of the city of Kauśāmbī during the Brāhmaṇa period is proved by the word Kauśāmbeya occurring in the Śatapatha Brāhmaṇa.[4] The city was founded by Nicakṣu, a descendant of Parīkṣit, after perhaps the city of Āsandivat was washed away by the flood of the Gaṅgā.[5] Kāśī also occurs in the *Śatapatha Brāhmaṇa.*[6] According to a Vedic tradition, a certain Śatānīka Śatrajita of the Bharata family made a raid along Gaṅgā upto Kāśī.[7] It is significant that the recent excavations at Rajghat, the site of ancient Vārāṇasī, to certain extent, confirm the literary evidence. Here, the earliest habitation is represented by black slipped ware, Black and Red Ware and Grey Ware. This first ceramic industry of Rajghat has been found at Hastināpura, Period II, Ahicchatra Period I and at many other sites of Gangetic Valley along with Painted Grey Ware.[8]

pp. 266–269. Wheeler puts Painted Grey Ware period between 1000–800 B. C. *Early India and Pakistan*, p. 28.

1. *Ancient India*, Nos. 10–11, pp. 138–141.

2. Ibid., p. 13∂.

3. Mathurā and Kauśāmbī, both have yielded P.G.W. Ibid., Nos. 10–11, p. 138, *Early India and Pakistan*, p. 28.

4. *Śat.Brā*, XII.2.2.3.

5. Pargitar, *Dynasties of the Kali Age*, p.5. *Rāmāyaṇa*, II.68.13. Mbh, *Ādi.*, 128. Excavations at Hastināpura confirm a flood level, which brought an end to priod II of Hastināpura. *Ancient India* Nos. 10–11, p. 151.

6. *Śat. Brā.*, XIII, 5.4. 19–21. Kāśī also occurs in A. V., V. 22, 14.

7. *Vedic Index*, Vol.1. pp. 153–155. *J.R.A.S.*, 1919, p. 520, Vārāṇasī is included in the list of P G.W. *Ancient India*, No.1., Appendix B., pp. 58–59.

8. T. N. Roy, 'Statigraphic Position of the Painted Grey Ware in Gangetic Valley' *Bhāratī*, No. 8. Pt. II, pp. 70–76.

The river course of Gaṅgā might have opened a route between Kauśāmbī and Kāśī. Through the streams of Yamunā and Gaṅgā, a river-route might have flourished from Indraprastha to Kauśāmbī via Mathurā.

After the campaign of Videgh Māthava, the Āryans dominated the land beyond the river Sarasvatī to the river Sadānīrā. A number of cities and towns came to be established in the Gangetic Valley and through them passed several routes. Unfortunately, much of the story of the development of the north Indian routes remains untold. In the Epics like the *Mahābhārata* and the *Rāmāyaṇa* some routes followed by troops as well as travellers are indicated. Their topography, however, is so obscure that no definite line of communication can be ascertained. So far as, *digvijaya* routes of the Pāṇḍavas are concerned, they sometime do not seem to follow any regular route. Most of the *Janapadas* enumerated as falling on the route are described without any geographical order, which shows that the writer aimed more at giving the traditional list of ancient *Janapadas* than a list of *Janapadas* actually conquered by the Pāṇḍavas.[1]

Dr. Motichandra observes that the route followed by Bhīma and Kṛṣṇa, when they were going to Rājagṛha from Hastināpura for combat with Jarāsandha was the northern offshoot of the great Uttarāpatha between Hastināpura and Vaiśālī via Śrāvastī. According to him, this route passed via Sāketa, Śrāvastī, Kapilavastu, Pāvā, Kuśīnārā and Vaiśālī. From Vaiśālī this route joined the main Uttarāpatha going via Vārāṇasi to Campā.[2] The *Mahābhārata* tells that Bhīma and Kṛṣṇa started from Kurukṣetra and passed through Kajaṅgala. They crossed the mountain Kālakūṭa and the rivers Gaṇḍakī, Mahāśoṇa. Sadānīrā and several more rivers of Eka Parvata region. Then after crossing the river Saryū they entered the Pūrva Kośala region. Next, they came to Mithilā and then from the confluence of Gaṅgā and Śoṇa they went to the region of Magadha.[3]

1. Infra., Appendix, D.
2. Motichandra, *Sārthavāha*, p. 19.
3. *Mbh. Sabhā.*, 18. 26–30.

This description, as a matter of fact does not agree with the accounts given in the Buddhist sources about the Hastināpura-Śrāvastī-Kapilavastu-Vaiśālī route. In this description the rivers are not given in their geographical order[1] and the positions of Kālakūṭa and Eka Parvata mountains are difficult to determine. Moreover, the Buddhist literature does not show that the route between Hastināpura and Śrāvastī was blocked by any such mountain.

Some routes in frequent use are indicated in the *Rāmāyaṇa*. The general condition of the routes was not very good and often they passed through forests. For example, Ayodhyā-Janakapura route in those days, was not very convenient and safe. This route was adopted by Rāma, Lakṣamaṇa and Viśvāmitra, while they were going to Siddhāśrama. They setforth from Ayodhyā for Tāṭakavana along the right course of the river Saryū.[2] After going one and a half *yojana* (6 miles) they rested for a night and then proceeded further along the same river on the next day also. By evening they reached near Kāmāśrama, from where the confluence of Gaṅgā with Saryū was within their sight.[3] Next day they reached the bank of Gaṅgā,[4] where a boat was available to them for crossing the Gaṅgā.[5] Thus, they avoided the meeting place of Gaṅgā and Saryū and reached the right bank of Gangā,[6] beyond which the Tāṭakavana was situated. In the Tāṭakavana, there were two deserted *Janapadas*, known as Malada and Karūṣa.[7] They were once prosperous on the route, which connected Ayodhyā with the Uttarāpatha coming from Takṣaśilā and going to Girivraja (the capital of Magadha) via Kāśī. Unfortunately, the point where the route coming from Ayodhyā touched the

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1. *Mbh.*, Sabhā 18. 26-30.
2. अध्यर्धयोजनं गत्वा सरय्वा दक्षिणे तटे। *Rāmāyaṇa*, 1. 22. 10.
3. Ibid., I. 23. 5.
4. Ibid., 1. 23. 16., I, 24. 2,
5. Ibid., 1. 24. 6., 1. 24. 11.
6. Ibid. I. 24. 11-12.
7. Ibid., I. 24 17.

Uttarāpatha is not indicated in the *Rāmāyaṇa*. Most probably, as they had to go to Siddhāśrama, it was somewhere in the south of the river Gaṅgā, where they left the main route, and took some forest track to proceed further.

From Siddhāśrama there was a convenient route for Girivraja. This route was quite suitable for carts. Viśvāmitra along with his disciples and other sages of Siddhāśrama proceeded towards the river Śoṇa on carts (*sakaṭis*)[1]

According to the text of the *Rāmāyaṇa* the route from Siddhāśrama to Janakapura was to adopt a northerly direction and passed through the *tarāi* region of the Himālaya,[2] but it seems that this route form Siddhāśrama went to Jankapura via Girivraja by crossing the river Śoṇa. Hence, this route seems to have had a north-easterly direction.

The river Śoṇa provided a good fording place to the travellers along this route.[3] Beyond the river Śoṇa, was the populous and prosperous *Janapada* of Magadha,[4] the capital of which was Girivraja, also known as Vasumatī.[5] This city was surrounded by five mountains and was situated along the river Sumāgadhī.[6] This topographical description of Girivraja is quite in conformity with the description of the city in the Pāli literature as well as in the *Mahābhārata*.[7] Girivraja was not visited by them and they took a direct route for Viśālāpurī. They crossed the Gaṅgā by boats[8] and from the north bank of the river Gaṅgā[9] started for Viśālāpurī.

1. *Rāmāyaṇa.*, I. 31, 17.
2. उत्तरे जाह्नवी तीरे हिमवन्तं शिलोच्चयम् ।
   प्रदक्षिणं ततः कृत्वा सिद्धाश्रममनुत्तमम् ।
   उत्तरां दिशिमुद्दिश्य प्रस्थातुमुपचक्रमे ॥ Ibid., I. 31. 15-17.
3. Ibid., I. 35. 4-5.
4. Ibid., I. 31. 28.
5. Ibid., II. 32. 8
6. Ibid., I. 32. 8-9.
7. *Vinaya*, Vol. I, p. 29, *Hist. Geog.* pp. 254-258. *Geography of Early Buddhism*, pp. 8-9; M. H. Kuraishi, *Rajgir*, p. 3.
8. *Rāmāyaṇa*, I. 45. 6-8.
9. Ibid., I. 45. 9.

According to the *Rāmāyaṇa* the city of Viśālāpurī stood at the bank of the Gaṅgā,[1] but as Viśālāpurī is identical with Vaiśāli, which stood on the north bank of Gaṇḍakī, it seems that the *Rāmāyaṇa* omits the detailed description of Rāma's journey from the Gaṅgā near its confluence with the Śoṇa to Viśālāpurī From Viśālāpurī the route went to Janakapura via the *āśrama* of Gautama, but the details of the route are not given in the *Rāmāyaṇa.*

The geography of the return route of Bharata from Kekaya is described in the *Rāmāyaṇa.* He, along with his army came to Sudāmā (Chinab), river and crossed it. Next, he crossed the rivers named Hradinī (Ravi) and Sutlej. Then he entered the plains of the Yamunā and Gaṅgā at the foot of the Siwaliks (*aparvata deśa*), He further proceeded in the north-eastern direction (*agnidiśi*) towards mountainous region, described in the *Rāmāyaṇa* as *Śalyakarṣaṇa deśa* (hard and stoney region). In this region Śilāvaha river (Upper Yamunā) was flowing.

The route followed by the messengers of *Vasiṣṭha* from Ayodhyā to Girivraja in Kekaya[2] also has some authenticity. According to the *Rāmāyaṇa*, starting from *Ayodhyā* the messengers came to the river Mālinī,[3] from where they came to Hastināpura.[4] The details of the route between the Mālinī and the Gaṅgā (near Hastināpura) are not given in the *Rāmāyaṇa*, but, the messengers might have passed along the popular route via Kāmpilya and Ahicchatra. They crossed the river Gaṅgā at Hastināpura and then rode fast towards the river Śardaṇḍā[5] through

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1. गङ्गाकूले निविष्टास्ते विशालां ददृशुः पुरीम् । *Rāmāyaṇa*, I. 45. 9.

2. Ibid., II. 68. Girivraja of Kekaya may be identified with Jalalpur. A Cunnigham. *Ancient Geography of India* pp. 186, 20४

3. *Rāmāyaṇa*, II. 68. 12.

4. Ibid., II. 68.13.

5. *Rāmāyaṇa*, II. 68, 15. In some versions of the *Rāmāyaṇa* the route between Hastināpura and Śardaṇḍā is described as follows :—

गत्वाथ हस्तिनापुरं गंगामुत्तीर्यवेगिता ।
पाञ्चालदेशमाजग्मुस्ततस्ते कुरुजांगलम् ॥
पूर्वेण वारुणीं तीर्त्वा कुरुक्षेत्रे सरस्वतीम् ।
सरांसि च प्रफुल्लानि नदीश्च विमलोदकाः ॥

Kurujāṅgala,[1] After crossing the river Śardaṇḍā[2] they passed through the city of Kulingas and the territory of Abhikāla.[3] Then they crossed the river Ikśumatī and passed through Vāhlīka and Sudāmā hills.[4] The next river, which they crossed was Vipāśā, beyond which was the kingdom of Kekaya with its capital Girivraja. The whole route has been described by Vālmīki as long (*pathātimahat*) and difficult (*vikṛṣṭena*)[5]

It seems that the return of Bharata from Girivraja to Ayodhyā was partially same as indicated above and partially different than the route followed by the above mentioned messengers. The route of Bharata, unfortunately, has not been correctly described in the *Rāmāyaṇa.*[6]

To present a picture of the trade-routes during the time of Buddha and later, Pali literature is undobtedly our most important source. Sometimes we have vague descriptions of these journeys and the travels, but very often the topography of the routes described in the Budhist literature, indicates the existing lines of communication with an amount of accuracy.

Uttarāpatha

In tracing the Great Northern Route, which later on became known as Uttarāpatha,[7] Takṣaśilā seems to be the most convenient point to start. It was the capital of Gandhāra and a great

Rāmāyaṇa (Parigi. H.D. CCC. XLIV.) Vol. II. Chapter LXX. 11-12 But, for a direct route between Hastināpura and Śardaṇḍā approaching Vāruṇī tīrtha, some where at Sarasvatī, would be a digression.

1. Kurujāṅgala was probably the wild region of the Kuru-realm and the eastern part of Kuru land. It stretched from the Kāmyakavana on the banks of Sarasvatī to Khāṇḍavavana at Yamunā. (*Hist Geog.* p. 101); Pañcāla, which was in the east of Hastināpur, (Hist. Geog. p. 115) has wrongly been mentioned in the *Rāmāyaṇa* as falling in the west of Hastināpura.

2. *Rāmāyaṇa.* II. 68.16.

3. Ibid, II. 68.17.

4. Ibid. II. 68.98.

5. Ibid., II. 68. 21.

6. Ibid., II. 71.

7. *D.P.P.N.*, Vol. I. p. 982. *Hist. Geog.*, pp. 129-31.

centre of trade and education. Its contacts were maintained with the kingdoms of Kośala, Malla, Avantī, Lāṭa, Kuru, Magadha, Śivi etc.[1] Śrāvastī and Vārāṇasī were also connected with Takṣaśilā.

The route between Takṣaśilā and Mathurā has been indicated by J. Przyluski on the basis of the *Vinaya Piṭaka* of the Mūla

1. *D.P.P.N.*, Vol. I, p. 982

Sarvāstivādins.[1] According to him, the route from Takṣaśilā to Mathurā passed through Bhadraṃkara, Udumbara, Rohitaka and Mathurā. But this route between Rohitaka and Udumbara, as the geographical situation of Agroda or Agrodaka (in the vicinity of Hissar, modern representative of which may be Agroha)[2] suggests, must have passed through it. It has been identified with Aggalapura or Aṅguttarāpa.[3] Aggalapura finds a mention in the *Cullavagga*,[4] which places it in the west of Udumbara.

Przyluski has equated Bhadraṃkara with Sākala (Sialkot), Udumabra with Pathankot, Aggalapur with Agroha and Rohitaka with modern Rohtak.[5] On the basis of these identifications it can be said that this route probably passed from Takṣaśilā towards the Jhelum and the Chinab having a south-east direction up to Sākala. After Sākala it passed through the *Janapada* of Udumabra in the vicinity of Pathankot. From there the route took a southern direction and passed to Aggalapura and Rohitaka. This section of the Northern Route or Uttarāpatha more or less corresponds to the Sialkot-Rohitaka road of the present day.[6] According to Przyluski, the messengers of Vasiṣtha might have taken this very route between Udumbara and Sākala.[7]

Przyluski suggests that the route traversed by Jīvaka was similar to the route of Revata. But a study of the passages dealing with the journey of Revata,[8] does not support this theory. Revata leaving Kāṇṇakujja (Kānyakubja) came to Ubumbara, to Aggalapura and to Sahajāti. Now if Przyluski

1. Przyluski. *Journal Asiatique*, (1926), Tom, 208, p. 3. *Indian Studies Past & Present*, Vol. I. No. 4, p. 730.
2. Ibid., p. 738.
3. *Journal Asiatique*, (1926), Tome, 208, p. 17, *Indian Studies Past & Present*, pp, 738-39
4. *Vinaya*, Vol. II, p.299.
5. *Journal Asiatique*, (1926), Tom, 208, p. 19.
6. *Indian Studies Past & Present*. p. 738.
7. *Journal Asiatique*, p. 16.
8. *Vinaya*, Vol. II., p. 299.

places Udumbara near Pathankot and Aggalapura near Hisar how can it be accepted that Revata from Kānyakubja came to Udumbara and then again proceeded to Aggalapura.

It appears that in the text these place-names are not given in their geographical order. According to the text, [1] Revata started from Soreyya (Sorono), came to Saṃkassa (Saṃkāsya) and then proceeded to Kaṇṇakujja (Kānyakubja). The account so far is acceptable. After Kānyakubja it is said that he went to Udumbara, Aggalapura and Sahajāti. [2] This portion of the text is vague and it appears that either he visited these places on altogether separate journeys or the account is totally misleading. From Kānyakubja, of course, he could have easily approached Sahajāti, which is identified with modern Bhita near Allahabad. [3]

While we do not know exactly the importance of Sākala in the time of Buddha, its position on the Uttarāpatha route suggests that it must have been a decent trade emporium (*putabhedana*). In Later times, particularly in the time of the king Milinda, Sākala was an important emporium of trade. [4]

From Sākala the route continued via Rohitaka up to Mathurā following mainly the course of Yamunā. Unfortunately we have no information from the Buddhist texts about the route between Sākala and Hastināpura, [5] though this portion of route formed a very important section of the Uttarāpatha route. The Kusa *Jātaka* informs us that the king Okkāka with his large retinue went from Kuśāvatī, his capital, to the city of Sāgala the capital of the king of Madda. [6] Kuśāvatī was another name of Kuśinagara, the place of Buddha's parinirvāna. [7]

1. *Vinaya*, Vol. II. p. 299.
2. Rahul Sankrityayan, *Buddhacharyā*, pp. 559–561.
3. Ibid., pp. 560–561.
4. *Milinda*, Vol. I. pp. 1–2.
5. This route may represent the post–Harappan tracks between Harappa and Hastināpura. Supra., pp. 57–60
6. *Jātaka*, Vol. V, p. 278.
7. *Hist. Geog.*, p. 102.

The Sākala-Kuśāvatī route,[1] as the position of Hastināpura suggests, probably passed through Hastināpura.[2]

Mathurā was linked with Verañja.[3] Accooding to a tradition mentioned in the *Vinaya Piṭaka*,[4] once Buddha went to Vārāṇasī from Verañja passing through Soreyya, Saṃkāsya and Kānyakubja and crossing the Gaṅgā at Payāgapaṭitthāṇa (Prayāga). This route from Verañja to Vārāṇasī was the shortest according to Buddhaghoṣa.[5]

A route between Indraprastha and Verañja also passed probably through Varṇa[6] (modern Bulandshahar). But our information about this route is very meagre.

While we do not know about the commercial significance of Mathurā and Verñja, we have some information about Soreyya.[7] From the *Dhammapada Aṭṭhakathā* we kuow that at Soreyya there lived a *seṭṭhiputta*. In the time of the Buddha a caravan route from Śrāvastī to Takṣaśilā passed through Soreyya.[8] Most probably this route passed through Sāketa, Prayāga, Ālavī, Kānyakubja, Soreyya, Hastināpura and Sākala. It is possible that the journey of Okkāka referred to above[9] followed this very route between Śrāvastī and Sākala. This route between Prayāga and Hastināpura mostly followed the right course of the river Gaṅgā.

Kāmpilya is not mentioned in any of the journeys referred

1. Distance between Kuśāvatī and Sāgala or Sākala is stated as 100 *yojanas*. *Pre-Buddhist India*, p. 383.

2. *Cetiya Jātaka* refers to a certain city named Hatthipura. It may be equated with Hastināpura. *Jātaka*, Vol. III, p. 460.

3. *Aṅguttara Nikāya*, Vol. II. p. 27.

4. *Vinaya*, Vol. III, p. 11.

5. *D. P. P. N.*, Vol. II, p. 390.

6. *Aṅguttara Nikāya*, Vol. I, p. 65.

7. *D. P. P. N.*, Vol. II, p. 1311. It can be identified with modern Soron, situated on the western bank of the Gaṅgā. Even today a road passes from Mathurā to Soron. *Hist. Geog.* p. 128.

8. *Dhammapada Aṭṭhakathā*, (H. O. S. Vol. 29) Part. II. pp. 24–25.

9. Supra. p. 68

to above. But according to the *Jātakas* it was an important town of Uttara Pañcāla. [1] Moreover the geographical position of Saṃkāśya [2] between Kāmpilya and Kānyakubja is such that traders coming from Kānyakubja and going to Soreyya via Saṃkāsya must have passed through Kāmpilya.

It seems that during the Buddha's time Ālavī was more important town than Kānyakubja. There is no doubt that Kānyakubja was a place of importance in the time of Thera Revata, [3] who visited it, but during the Buddha's time it was probably Ālavī, which was important and had trade-relations with Saṃkāśya. According to the *Dhammapada Aṭṭhakathā* there was a weaver's shop at Ālavī. [4] Buddha visited Ālavī more than once. The *Dhammapada Atthakathā* suggests a frequent intercourse between Ālavī and Śrāvastī. The distance between Śrāvastī and Ālavī is stated to be thirty *yojanas* [5] From the *Vinaya Pitaka* we infer that routes passed through Ālavī not only for Śrāvastī but for Rājagṛha also. Once Buddha visited Rājagṛha from Ālavī. [6] The details of the route, however, are not given, but it was through Prayāga. Prayāga was a convenient fording place on the direct route from Verañja to Vārānasī. From Prayāga there was a route for Vaiśālī also. Due to its position, at the confluence of the Gaṅgā and the Yamunā, it was linked with Śrāvastī, Sahajāti and Kauśāmbī. There were routes coming from Verañjā, Soreyya, Saṃkāsya and Kānyakubja, which converged at Prayāga [7] Form here, routes also existed for Vārānasī.

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1. *Jātaka*, Vol. II, p. 214, III. p 79. 379, V. p. 21, p. 98 VI. p. 391. *D. P. P. N.*, Vol. I. p. 526. *Jātakas* wrongly place Kāmpilya in Uttara Pañcāla. It was in the South Pañcāla. *Hist. Geog.* p. 92.

2. Saṃkāśya was situated on the north bank of the river Ikkhumatī Ikṣumatī now known as Kālīndī. B. C. Law, *Geography of Early Buddhism*, p. 32.

3. *Vinaya*, Vol. II, p. 299.

4. *Dhammapada Aṭṭhakathā*, (H. O. S. Vol. 30) part, III, p. 15.

5. Ibid., (H. O. S. Vol. 30) part, III, p. 16.

6. *Vinaya*, Vol. II, p. 175.

7. Ibid., Vol. III, p. 11.

Kauśāmbī, the capital of the Vatsas, in the time of the Buddha was one of the six great cities in the *Mahāparinibbāna sutta* [1] As a matter of fact, it was at an important junction of routes than was Prayāga. According to the *Vinaya Piṭaka*, from here, there were routes for Kośala, Vaiśālī and Rājagṛha. Thus, we are told that Jīvaka Komārbhacca, while returning from Ujjayinī and going to Rājagṛha halted at Kauśāmbī. [2] Ānanda also once followed this route. It it said that Ānanda along with five hundred *bhikkus* went to meet another *bhikkhu* named Channa by boat sailing up the streams of the river Gaṅgā from Rajagṛha to Kauśāmbī. [3] J. P. Malalsekhera thinks that a land route passed through Anupiya and Kauśāmbi to Rajagrha. [4] Anupiya was in the kingdom of the Mallas in the east of Kapilavastu. At Anupya, Buddha is said to have spent the first seven days after his renunciation, before going to Rājagrha. [5] It seems, that there was no direct route between Anupiya and Rajagrha via Kauśāmbī. [6] The *Vinaya Pitaka* shows that Buddha had stayed at Anupiya for as long as he thought fit and then he set out on his journey towards Kauśambī. Thus, in one part of his journey Buddha came from Anupiya to Kauśāmbī and in another part of his journey he came from Kauśāmbī to Rājagrha by a different route, whose detailad itinerary is not given in the text.

A great highway also existed between the kingdom of Kośala and the territory of the Assakas on the Godāvarī in the Dakkhināpatha via Kauśāmbī. The sixteen disciples of a contain Brāhmana named Bāvarī [7] starting form Alaka on the

1. *Dīgha Nikāya*, (S. B. E.) Vol. XI, *Mahāparinibbānasutta*, V. 41. p. 99. Othor five great citis were Campā, Rājagrha, Śrāvastī, Sāketa and Vārāṇasī.

2. *Vinaya*, Vol. I., pp. 276-78.

3. Ibid., Vol. II., p. 290.

4. *D. P. P. N.*, Vol. I, p. 92. *Vinaya*, Vol. II, p. 180 ; *Jātaka*, Vol. I., pp. 65-66.

5. *Vinaya*, Vol. II., p. 180.

6. Ibid., Vol. II, pp. 178-76.

7. *Sutta Nipāta*,, (S. B. E. Vol. X), verses 976-977, 1011-1013.

Godāvari went to Śrāvastī passing through Pratiṣṭhāna (Patiṭṭhāna), Māhiṣmatī (Māhissati), Ujjayanī (Ujjeni), Gonaddha, Vidiśā (Vedisā), Vanasavhya [1] Kauśāmbī (Kosambī) and Sāketa. [2] It seems that these disciples not finding Buddha at Śrāvastī, who was at that time at Pāsāṇaka Cetiya, somewhere near Rājagṛha, went there to meet Buddha via Kapilavstu and Vaiśālī. They went from Śrāvastī to Setavyā, Kapilavastu. Kuśīnārā, Pāvā, the city of wealth, Vaiśālī and then to the city of Magadha i.e. Rājagṛha. [3]

This journey of the sixteen disciples is really of great help in tracing the routes, between. Śrāvastī and Patiṭṭhāna (Pratiṣṭhāna) and from Śrāvastī to Rājagṛha.[4]

The communication between Prayāga and Vārāṇasī passed through two routes. One avoided Kauśāmbī and connected Prayāga and Vārānasī directly, while the other went to Vārānasī via Kauśāmbī, Sahajāti, Sumsumāgiri (Chunar ?). Thera Revata, for approaching Sahajāti after Kānyakubja, most probably followed this very route. The distance between Kauśambī and Vārānasī along Yamunā was probably thirty *yojanas*. [5] The Verañja-Vārāṇasī route also passed through Prayāga.

By the time of the Buddha, politically Vārāṇasi had became subservient to Śrāvastī but its economic and cultural importance was so great that it was included in the traditional list of six great cities. [6] The *Jātakas* refer many a times to the merchants and the artisans of Vārānasī. The commercial relation of Vārānasī extended far beyond the Middle Country i. e. to Takṣaśilā and Gandhāra in the north west, Śrāvastī in the north, Campā in the east and Bharukaccha in the south west. With Śrāvastī it was directly linked via Kīṭagiri. According to

1. The identification of Gonaddha and Vanasavhya is not possible.
2. *Sutta Nipāta*, verses. 976–977.
3. Ibid., Verses. 1012–1013.
4. *Buddhist India*, p. 64.
5. *D. P. P. N.* Vol. I. p. 642.
6. Supra. p. 71

the *Vinaya Piṭaka*, once Buddha visited Kīṭagiri from Śrāvastī.[1] Kītagiri has been indentified with Kerakat of Jaunpur District in Uttar Pradesh. But, if this identification is correct, Motichandra's suggestion that Buddha visited Rājagṛha from Kītagiri via Ālavī cannot be accepted.[2] The text is quite clear to show that the Buddha visited these three towns not in one course of journey [3]

A brisk trade was being carried on between Vārāṇasī and Takṣaśilā and the relations between Vārāṇasī and Takṣaśilā were so close that even the potters of Vārāṇasī are mentioned as visiting Taksaśılā with heavy loads of pottery.[4] Due to its situation, its trade with Campā, Rājagṛha, Mithilā and other cities of Uttarāpatha was considerable. According to one *Jātaka* the kingdom of Videha had its trade-relation with Gandhāra.[5] As this trade was largely maintained by the river-route the trade-traffic must have passed through Vārānasī.[6] Ratilal Mehta has presented a good account of the trade-relations of Vārānasī with other cities. He says, "taking Benares as the centre of this route we can trace out the different stages through which the traffic was carried on. Leaving out Tamalitti on the extreme east coast which was undoubtedly a great port, but which does not appear in the stories, we see that Campā was the next great trading centre from the east.......On land Campā was joined with Mithilā, the Videhan Capital. But further west, along the river Ganges, came the great centre Benares. On land Benares had busy trade relation with Ujjeni. The route, probably, passed through Kośambi and the Cheti country....... On this side, the route branched off to Rājagaha. From Videha to Gandhāra, was a very brisk traffic. It was largely by river, and must have passed through Benares. To reach

1. *Vinaya*, Vol. II. p. 171.
2. *Sārthavāha*, p. 16.
3. *Vinaya*, II. p. 191.
4. *Dhammapada Aṭṭhakathā*, (H. O. S. Vol. 28.) Part I. p. 224.
5. *Pre-Buddhist India* p. 226. *Jātaka*, Vol. III. p. 365.
6. Ibid., p. 365.

Kampilla or further still to Indapatta from Mithilā, one must have had to follow up this route upto Prayāga, and then sail up the river Ganges, while the Jamunā might carry him upto Madhurā. Further westward the journey would again be overland to Sindha, whence came large imports in horses and asses and to Sovīra and its ports. Northward (Uttarāpatha) lay the great trade-route connecting India with central and western Asia, by way of Taxila (Takkasilā) in Gandhāra near Rawalpindi and presumably also of Sāgala in the Panjab. [1] Now this was the route which passed through the great desert (*marukantāra*)—60 leagues wide—probably the sandy desert of Rājputānā."

To the east of Vārānasī, there were three important cities— Vaiśāli Rājagrha and Campā. Between Vārānasī and Vaiśālī, the route mainly passed along the course of the Gaṅgā. The water traffic was also through the streams of the river Gandaka from Vaiśālī upto its confluence with the Gaṅgā. We have mentioned above that Ānanda embarked on the boat at Rājagrha and went to Kauśāmbī sailing upward through Gaṅgā. [2] But, the geographical position of Rājagrha [3] shows that it was not on the bank of Gaṅgā, hence, a land route between Rājagrha and the bank of Gaṅgā may be presumed to have existed. This route was repaired by king Bimbisāra of Magadha for Buddha, when he was to come from Rājagrha to Vaiśālī. [4]

From the north bank of the river Gaṅgā, the same route had its extentions for Vaiśālī via Ukkācala and Nālandā. Buddha visited Nālandā twice, once from Rājagrha and next

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1. *Pre-Buddhist India*, pp. 225-226

2. Supra p 71,

3. Rājagrha or Girivraja has been located near Rajagir among the hills near Gaya. According to *Vinaya Pitaka* the river Tapoda flowed by the city. It was protected by 5 hills. *Vinaya*, Vol. 1 p. 29. *Geography of Early Buddhism* pp. 8-9.

4. *Dhammapada Aṭṭhakathā*, (H. O. S. Vol. 38) part III, pp. 439-440.

time from Kośala.[1] From Rājagṛha there were two routes to Gayā and Uruvelā.[2] Buddha came from Rājagṛha to Uruvelā near Gayā for attaining *sambodhi*. A direct route also probably existed between Gayā and Vārāṇasī.[3] Along this route, after *sambodhi*, Buddha came to Isipatanamigadāva (Sarnath) via Vārāṇasī and on the way met Upaka. The details of this route are not known to us. It, however, passed through the forests of Kappāsiya and Pārileyaka near Kauśambī.[4] We have already pointed out that a trade-route existed between Rājagṛha and Śrāvastī.[5]

Sāketa was the second capital of Kośala. It was also one of the six great cities and the abode of rich merchants.[6]

The distance between Sāketa and Śrāvastī was of six or seven *yojanas*.[7] It was the first halting place for one, who was going from Śrāvastī to Kauśambī and Pratisṭhāna. Between Śrāvastī and Sāketa the route passed through Toraṇa Vatthu,[8] crossing a broad river (probably Saryū), which traders had to cross by boat. This route was not safe due to robbers and the king of Kośala had to maintain an army for the security of the passengers on this route.[9]

Śrāvastī, the city of Anāthapiṇḍika, seems to have been more prosperous than Sāketa. It is said that Śrāvastī contained everything required by human beings. According to one tradition there was a caravan *sarai* and people meeting there asked each other what they had (*kim bhaṇḍam atthi*). The usual reply of this question was *sabbam atthi*. This was the

1. *Geography of Early Buddhism*, p 31.
2. Rahul Sankrtyayan, *Purātatva Nibandhāvalī*, See map facing p. 20.
3. Ibid., map facing p. 20.
4. *Vinaya*, Vol I, p. 352.
5. Supra, p. 72.
6. *D. P. P N.*, Vol. II, p. 1085.
7. *Vinaya*, Vol. I, p. 253.
8. *Sutta Nipāta*, verses. 1011-1013.
9. *Vinaya*, Vol. I, pp. 88, 89, 229 ; III, p. 212, IV, pp. 63. 120.

reason why the city was called Śrāvastī. [1] It was the nerve-centre of the commerce and a number of routes emerged from here, which connected several cities of northern as well as western India. It had routes for Sāketa, Rājagṛha, Kauśāmbī, Vārāṇasī, Āḷavī, Saṃkāsya and Takṣaśilā. It had direct trade-routes for Ujjayinī, Māhiṣmatī, Pratisthāna, Bharukaccha and Sūrapāraka. Places like Macchikāsaṇḍa, Kukkuṭāvatī, Uggapura were also connected with Śrāvastī. [2] The most popular place, where visiting merchants used to stay with carts loaded with their commodities was somewhere between Śrāvastī's southern gate and Jetavana. [3] It seems that the city had three gates [4] and therefore, we may suggest that there were three great routes going from here to the south, the east and the north. There is no mention of a western gate of Śrāvastī. Probably, no route came to the city from the west. Motichandra has suggested a route between Takṣaśilā and Śrāvastī passing through Kuru-Jāṅgala and Hastināpura. This route according to the map in his book *Sārthavāha* [5] was a different route other than the main Uttarāpatha, which we have discussed above. [6] According to him, modern rail road between Saharanpur, Lucknow and Gonda follows mainly that very ancient route. [7] But we fail to find any evidence from the Buddhist source to prove the existence of the western route as indicated by him. This might explain the fact why Śrāvastī had no western gate.

While we do not know about the commercial significance of the eastern gate, it was the northern gate, through which the traffic passed for Kapilavastu, Vaiśālī and Rājagṛha. For entering the city, one had to cross the river Acirāvatī

1. *Majjhim Nikāya*, Vol. I. p. 2. *D. P. P. N*, Vol. II. p. 1126.
2. Ibid., Vol. II. p. 1126.
3. *Dhammapada Aṭṭhakathā*, (H O. S.) Vol. 28, part. I. p. 184.
4. Ibid., (H. O. S.) Vol. 28, part. I p. 184.
5. *Sārthavāha*, p. 17.
6. Ibid., p. 17. Supra, pp. 65–76.
7. *Sārthavāha*, p. 17.

(Rapti) which had a bridge of boats (*Ulumpa*). [1] In the *Vimāna Vatthu* and *Udāna Aṭṭhakathā* [2] we find mention of Kevaṭṭa gate, where lived five hundred *kevaṭṭas*. According to Rahul Sankrityayan, Kevaṭṭa gate was another name of northern gate and these Kevaṭṭas were carriers of the river traffic.[3]

Through the northern gate the traffic issued forth for Kapilavastu via Setavyā. Setavyā [4] was the next important town between Kapilavastu and Śrāvastī. Here lived the three seṭṭhi brothers, Cullakāla, Majjhimakāla and Mahākāla, who used to trade far and near with five hundred carts of goods. [5] From Kapilavastu the route turned south-east for Vaiśāli via Kuśinārā.

The route between Kapilavastu and Rājagṛha was across the river Anomā, which Buddha crossed while going towards Rājagrha after his renunciation. [6] From Anomā the distance of Rājagrha was 30 *yojanas*. [7] Pāvā and Kuśīnagara were the two important towns of the Mallas on the Kapilavastu—Rājagṛha route. [8] Disciples of Bāvarī passed through Kuśinagara. We have pointed out earlier that Kuśāvatī and Sākala were linked in the time of Okkāka. [9] But Kuśinagara is not mentioned by Ananda in the list of great cities. Probably,

1. *Vinaya*, Vol. I. p. 230. *Purātatva Nibandhāvalī*. p. 34.

2. *Vimāna Vatthu*. II. 2 ; *Udāna Aṭṭhakathā*. III. 3. *Purātatva Nibandhāvalī* p. 33.

3. Ibid., p. 33.

4. The identification of Setavyā is not certain.

5. *Dhammapada Aṭṭhakathā*, (H. O. S. Vol. 28) part. I, p. 184.

6. *D. P. P. N.*, Vol. I. p. 102.

7. Ibid., Vol. I. p. 102. *Jātaka*, Vol. I. p. 66.

8. *Dīgha Nikāya*, Vol. II. p. 126. *D. P. P. N*, Vol. II. p. 1126. Aaccording to *Sutta Nipata* (verses 1011–13) on the Kapilavastu route, first comes the town of Pāvā and then comes Kuśīnagara. Modern identification of Pāvā and Kuśīnagara (*Hist. Geog.* pp. 103. 116) does not confirm the account of *Sutta Nipāta*. It seems that Kuśīnagara was not on the main route between Kapilavastu and Rājagṛha.

9. Surra p. 68.

its importance during the time of Buddha had considerably reduced.[1] Between Pāvā and Vaiśālī the route passed through Bhoganagara, Jambugāma, Hatthigāma and Bhaṇḍagāma.[2] The identification of these places is difficult but Bhaṇḍagāma, was perhaps the place, where the store houses of Vaiśālī merchants were located.

The traffic between Videha[3] and the Gandhāra must have passed through Vaiśālī. But how this route connected Vaiśālī with Janakapura in the Mithilā *janapada* we do not know.

From Vaiśālī to Rājagṛha via Pātaliputra the route passed through Nādikā, Koṭigāma, Pātaligāma, Nālandā, Ambalaṭṭhikā.[4] This route crossed the Gaṅgā at Pātaliputra. Buddha appears to have passed through this very route while going from Rājagṛha to Vaiśālī. The distance between the Gaṅgā and Rājagṛha was five *yojanas* and between Nālandā and Rājagrha one *yojana*.[5] The Licchavīs as well as the king of Magadha managed the ferry for transhipment at the Gaṅgā on this route.[6]

The trade-traffic of Rājagṛha with Takṣaśīlā was not confined to the passing via Vārāṇasī only; it also passed through Śrāvastī.[7] This route was 192 *yojanas* long. The distance between Śrāvastī and Rājagṛha was 45 *yojanas*.[8] From Rājagṛha there was a route for Ukkala (Utkala). On this route, the two traders of Puṣkalāvatī (Pokkharāvatī), Tapsasu and Bhalluka, met Buddha.[9] This route connected Śrāvastī with

1. *Dīgha Nikāya*, Vol. II. p. 147.
2. Ibid., Vol. II. pp. 609, 123. *Anguttara Nikāya* Vol. II. pp. 1-12.
3. *Jātaka*, Vol. III. p 365, *Pre-Buddhist India*, p. 226.
4. *Dīgha Nikāya*, Vol. II. p. 609.
5. *D. P. P. N.*, Vol. II. p. 723.
6. Ibid., Vol. II. p. 723. *Divyāvadāna*, p. 55.
7. *D. P. P. N.*, Vol. II, p. 723.
8. Ibid., Vol. II, p. 723.
9. *Vinaya*, Vol. I, p. 3.

Dantapura—a famous trade-emporium of Kalinga *Janapada*. [1]

To the east of Rājagṛha there were three important trade-stations of Bhaddiya, Campā and Tāmralipti. Bhaddiya—a city of Aṅga kingdom had its trade-relations with Kauśāmbī and Śrāvastī. [2] The route for both the places from Bhaddiya passed along Rājagṛha. On the same route towards the east beyond Bhaddiya was Campā, situated on the river of the same name.[3] It was also one of the six great towns of India during the time of Buddha and was the capital of a kingdom of 8000 villages and many other *āpaṇa* towns.[4] We find occasional mention of *Aṅgānama nigamo*. [5] This was a commercial town (unfortunately we do not know the specific name and location of this town) having twenty thousand *āpaṇas* (shops). [6] But, as the name of the town is not given, it seems reasonable to presume that it was commercial out-port of Campā in its suberb as Bhaṇḍagām was near Vaiśālī. [7]

In one *Jātaka* story we find that Campā was linked with Mithilā. The traders of Campā regularly organised *sārthās* for Sindhu-Sauvīra via Vārānasī, Kauśāmbī and Mathurā. [8] From Mathurā there were two routes for Roruka, the capital of Sindhu-Sauvīra; one via Dwarāvati (Dwarikā) [9] and the other via Indraprastha, Rohitaka and bifurcating from Sutlej to Sindhu-Sauvīra via Sibi and Patala. The Mathurā—Dwārāvatī route passed through the desert and hence, according to V. S. Agrawala it was known as *vaṇṇu-*

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1. *Jātaka*, Vol. II, pp. 367, 371, 381, Vol. III, p. 376, Vol. IV, pp. 230–232, 236 ; *Dīgha Nikāya*, Vol. IV p. 235. It may be indentified either with Rājmahendrī on the Godāvarī or Puri in Orissa or Poloura of Ptolemy. *Hist. Geog.* p. 149.
2. *Dhammapada Aṭṭhakathā*, (H. O. S. Vol. 28) part. I, p. 196.
3. *Jātaka*, Vol. IV, p. 454.
4. *Vinaya*, Vol. I, p. 179.
5. Bharata Singh Upadhyaya, *Bauddha Kālīna Bhoogola*, p. 357.
6. Ibid., p. 357. *Pañca Sūdanī*, Vol. II, p. 586.
7. Supra., p. 78.
8. *Vimāna Vatthu Aṭṭhakathā*, (P. T. S.), p. 332.
9. *Jātaka*, Vol. IV, pp. 79–89 ; *Pre-Buddhist India*, p. 226.

patha.[1] From Dwārāvatī, a route, probably via Roruka, proceeded to the *janapada* of Kamboja[2] and connected Dwrāvatī with Bactria also. Campā-Sindhu-Sauvīra trade was very prosperous, and the traders of Magadha also participated in it.[3]

From Campā, there was a route for Tāmralipti via Kajangala, which followed mainly the lower course of the Gaṅgā.[4] Bhīma in course of the *digvijaya* of Eastern-India closely followed the main trade-route connecting Campā with Tāmralipti. Kajangala was one of the main trade-stations along this route, where every provision was available to traders and travellers at cheap rates (*dabba saṃbhāra sulabha*).[5] Tāmralipti was the last out-post for export-trade to Suvarṇabhūmi and other countries of the Far East. Besides this land route, a river route also helped the commerce of the country. We have severel references to river-traffic which brought merchants and their commodities from Sahajāti, Kauśāmbi, Vārāṇasī, Pāṭaliputra and Campā to Tāmralipti and further to Suvarṇabhūmi.[6]

Some interesting details about the Uttarāpatha are known from the accounts of Megasthenes.[7] This route was the main commercial route (*vaṇika patha*) during the rule of the Mauryas. Megasthenes has described this route in eight stages. The detais of the stages and distances may be summarily described as follows :—[8]

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1. *Pāṇini Kālīna Bhārata*, p. 236.
2. *Petta Vatthu Dīpanī*, Vol. III, p. 113.
3. *Vimāna Vatthu Aṭṭhakathā*, p. 370.
4. *D. P. P. N.*, Vol. I, p. 482.
5. Ibid., Vol, I, p. 482.
6. *Vinaya*, Vol. II, p. 290.
   Jātaka, Vol. IV, p. 15, p. 159.
   Pre-Buddhist India, pp. 225–226.
7. Mc Crindle, *Megasthenes and Arrian*, p. 47–48.
8. H. C. Rawlinson, *Intercourse between India and the Western World*, p. 46.

1. From Peukelaotis to Taxila. 60 miles
2. From Peukelaotis to the Hydaspes. 120 ,,
3. From Peukelaotis to the Hyphasis. 390 ,,
4. From the Hyphasis to the Hēsidrus. 168 ,,
5. From the Hēsidrus to the Jamnā. 168 ,,
6. From the Jamnā to the Ganges. 112 ,,
7. From the Ganges the Rhodopha. 119 ,,
   (Some note as 326 miles)
8. From Rhodopha to Kallinapaxa. 167½ ,,

This route was described by the Greeks as the 'Royal Road' and was measured by Baeto and Diognetus between Peukelaotis and Hyphasis and by Seleucus between Hyphasis and the Ganges. [1]

A study of the itennary of this note shows that from Puṣkalāvatī (Peukelaotis) it came to Takṣaśilā (Taxila) via Udabhāṇḍa. Udabhāṇḍa may be identified with modern Ohind.[2] It stood on the right bank of the Indus and may further be equated with Embolima of classical accounts, where Alexander crossed the river Indus, while he was marching against Takṣaśilā. [3] Since ancient days, Udabhāṇḍa provided a very convenient place for the trans-shipment of goods at the Indus. [4] From Takṣaśilā across the rivers Jhelum (Hydaspes), Beas (Hyphasis) and Sutlej (Hēsidrus) it reached Yamunā (Iomanes). From the Yamunā the road proceeded towards the Gaṅgā via perhaps Hastināpura, and then it came to Rhodopha, the identification of which is uncertain. [5] From Rhodopha it came to Kānyakubja (Kallinapaxa). This route from Kānyakubja proceeded to Pātaliputra (Polibothra) via Prayāga and

1. Pliny, *Natural History*, VI. 21. Strabo., *Geography*, XV. I. II. Mc Crindle, *Ancient India as described in Classical Literature*, p. 16.

2. *Ancient Geography of India*, pp. 52-57. *India as known to Pāṇini*, p. 246.

3. Mc Crindle, *Ancient India and its Invasion by Alexander*, p. 150. Balram Srivastava, *Sikandar Kā Ākramaṇa aur Paścimottara Bhārata*, p. 9.

4. *Ancient Geography of India*, p. 52-57.

5. According to V. S. Agrawala Rhodopha may be identified with Rāmagaṅgā. *India as known to Pāṇini*, p. 245. Rawlinson identifies it with Dabhai near Anupashara. *Intercourse between India and the West*, p. 42.

thence to Tāmaralipti.[1] According to H. G. Rawlinson, this great route was joined at many points by several bye-routes. There were also some short-cuts, marked by sign-posts on this route.[2]

Dakṣiṇāpatha

Due to the paucity of archaeological and literary material about the South Indian routes, it is difficult to trace the origin and the development of the Dakṣiṇāpatha. There is no doubt, that South India was known to the Āryans from early times in the Ṛgvedic period [3] but the progress of the opening of routes between North India and South India was slow before the end of the sixth century B. C. Some of the *janapadas* like Vidarbha, Aśmaka and Kaliṅga lying to the south of the Vindhyas, are mentioned in the *Brāhmaṇas*, the *Sūtras* and in the *Aṣṭādhyāyī* of Pāṇini,[4] But the mention of these *janapadas* in early literature does not prove a regular line of communication between the North and the South.

In the absence of any clear indication about the trade-routes in the South India, we may consider the possible routes through which the Āryans could have penetrated into South India; these openings can be expected to have helped the formation of trade-routes in later times. In the *Aṣṭādhyāyī*, Kaliṅga *janapada* finds a mention.[5] Therefore, Some scholars have suggested that as the Vindhya and the Satapurā ranges were difficult to cross, the Āryans might have entered South India through some

1. R. K. Mookerji. *Chandragupta Maurya and His Times*, p. 206.
2. *Intercourse between India and the West*, p. 64.
3. Dakṣiṇāpatha is mentioned in the *Rgveda* as Dakṣiṇapāda. *R. V.* X. 61.8.
4. *Aitareya Brāhmaṇa* mentions Vidarbha in VII. 18. It also mentions the names of some of the South Indian tribes like Āndhras, Puṇḍras, Sabaras, Pulindas, Mūtibindas etc. VII. 18. *Baudhāyana Dharma Sūtra*, I. 1. 2. 3. *Aṣṭādhyāyī*, mentions Kaliṅga IV, I. 170 and Aśmaka IV. I. 173. R. G. Bhandarkar, *Early History of the Deccan*, (1918), pp. 14–15.
5. *Aṣṭādhyāyī*, IV. I. 170.

eastern route.[1] But, K. A. N. Sastri rightly observes that the barrier of the Vindhyas was negotiated at convenient points and the chief route between the North and the South India lay right accross them, i.e. the Narmadā and the Satapurā.[2] It is also significant that while Aśmaka is included in the traditional list of *soḍasa janapadas*, Vaṅga is not mentioned. This suggests the direction of the Āryan immigration into South India and shows that the eastern part of Northern India came under the Āryan influence at a relatively late period. R. G. Bhandarkar is also of the opinion that the Āryans were afraid of crossing the Vindhya and went southward to the Deccan by an easterly detour round the Vindhya range.[3] He says that the Āryans passed through the Avantī region, the southern most town of which was Māhiṣmatī or Māndhātā on the Narmadā; from here they crossed the Vindhya and colonised Vidarbha. From Vidarbha the Āryans proceeded southward, first to the Mūlaka territory with its capital at Pratiṣṭhāna and from there to the Aśmaka country. Beyond Aśmaka, as the Aśokan edicts of Maski and Chitaldurg indicate the Āryans might have gone to the south through the modern Raichur and Chitaldurg districts and from there to Madurā in the Pāṇḍyan Kingdom.[4] According to this theory, the kingdom of Kaliṅga, which finds mention in the *Aṣṭādhyāyī* must have been colonised by the Āryans after Aśmaka. But, while we know very little about the route going to Kaliṅga, it can be reasonably surmised on the basis of the relative geographical position of Kaliṅga and Magadha, that by the time of Aśoka (unfortunately we do not know the route of his invasion over Kaliṅga) Kaliṅga had a more direct link with Pātaliputra via perhaps Tāmralipti than via Avantī or Aśmaka.

A study of the journey undertaken by Rāma during his exile also indicates that the route between the North and South India lay through Avantī across the Vindhyas. From Citrakūta

1. See view quoted in R.G. Bhandarkar's, *Early History of the Deccan*, pp. 4-5.
2. K. A. N. Sastri, *A History of South India*, p. 75.
3. *Early History of the Deccan*, p. 5.
4. Ibid., pp. 22-23

Rāma came to Atri *āśrama* through the Daṇḍaka forest. He crossed the river Mahājavā (Narmadā) somewhere near Sohagpur and Narsinghpur. Then passing through the forest of Panchmarhi and Senoi he came to the *āśrama* of Sutīkṣaṇa on the bank of the Veṇa (Waingaṅgā river). Then he came to the *āśrama* of Agastya and then to the forest of Pañcavaṭī near Janasthāna on the bank of the Godāvarī. [1] We have referred to the route followed by Bāvari from Pratiṣṭhāna to Śravastī via Kauśāmbī. [2] The route of Bāvari is identical in broad outlines with the route traversed by Rāma during his exile from Prayāga to Pañcavaṭī via Citrakūṭta.

From Janasthāna, marching south-west, he crossed the Mandākinī (Manjara, a southern tributary of the Godāvarī, near perhaps kowlass) [3] then he entered Balaghat hills and taking an east direction, he reached Pampā, which may be identified with Poona. [4]

His next destination was Kiṣkindhā near modern Hampi. [5] Rama's route south of Kiṣkindhā is not certain. [6] According to F. E. Pargiter, Rāma after leaving Kiṣkindhā came to the Malaya mountain and then to Mahendra. Pargiter locates Malaya in Raicur district and Mahendra in the most southerly spar of the Travancore Hills. Then Rāma came to Velāvana, which according to Pargiter, may be identified with the Adam's brodge. [7]

V. S. Agrawala has pointed out that the '*Mahābhārata*, Vana parva tells us of three routes, one leading to Dakṣhiṇa Kosala, the other to Vidarbha and in between them the

1. *Rāmāyaṇa*, Ayodhyā. 117–119, Araṇya, 2–13; F. E. Pargiter, The Geography of Rāma's Exile, *J. R. A. S.*, 1894, pp. 245–250.

2. Supra., pp. 71–72.

3. *J. R. A. S.*, 1894, p. 250.

4. Ibid., 1894, p. 250.

5. *Beginnings of South Indian History*, p. 61.

6. Rai Krishna Das, Rāma vanavāsa kā bhoogola, *Kāśī Nāgari Pracāriṇī Patrikā*, varṣa 54. Nos. 2–3.

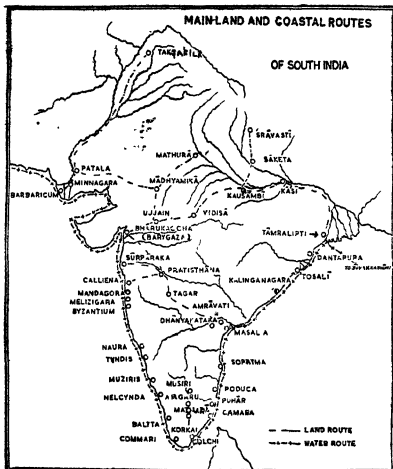
7. *J. R. A. S.*, 1894. pp. 256–262.

Dakshiṇāpatha Mārga or the Grand Trunk Express.'[1] The study of the relevent text, indicates that the bifurcation of these many routes going to Dakṣiṇāpatha was at a place either in the country of Nışadha or at its borders. The location of Niṣadha country was contiguous to Vidarbha [2] and it was near the mountain Pariyātra.[3] Adjoining the mountain of Pariyātra, was the situation of the mountain of Rikṣavanta. Both the Pariyātra and the Rikṣavanta were the branches of modern Vindhya range. The text shows that a route ran towards Avantī after crossing the mountain Rikṣavanta.[4] Near this mountain Riksavanta (Vindhya ?) the river Payoṣiṇī (Tapti ?) was flowing towards the sea (Western sea ?). [5] Somewhere near the mountain Vindhya (Riksavanta) and the river Payoṣiṇī there was a place, from where, besides the Avantī route going to Māhiṣmatī, the traditional capital of Avantī and a great terminus of trade-routes, there were two more routes, one going to Vidarbha *janapada* and the other going to the *janapada* of Dakṣina Kasala. As all these three routes existed in the Daksināpatha region, it is hardly possible to accept the view of V.S. Agrawala that between the Vidarbha and the Dakṣiṇa Kosala routes there existed any third route to which can be called "Dakshināpatha Mārga." The text quite clearly mentions that beyond these roads to the south is the southern country' [6] and

1. V.S. Agrawala, *Presidential Address, All India Oriental Conference 22nd Session*, Gauhati, 1965 p. 14.
2. *Vedic Age*, p. 257.
3. D.C. Sircar, *Studies in the Geography of Ancient Medeaval India*, p. 35.
4. एते गच्छन्ति बहवः पन्थानो दक्षिणापथम् ।
   अवन्तीमृक्षवन्तं च समतिक्रम्य पर्वतम् ॥ *Mbh.*, Vana. 61. 21
5. एष विन्ध्यो महाशैलः पयोष्णी च समुद्रगा । Ibid, Vana, 61. 22.
6. एषपन्था विदर्भाणामसौ गच्छति कोसलान् ।
   अतः परं च देशोऽयं दक्षिणे दक्षिणापथः ॥

Mbh., Vana, 61.23. The Poona edition of *Mbh.* provides the same text in *Mbh.* (P) 58. 22.

P. C. Roy translates the verse as 'this road leads to the country of the Vidarbha and that to the country of Kosala. Beyond these roads to the south is the southern country. *Mbh.* Vana, p. 179.

does not indicate the existence of any 'Dakshiṇāpatha Mārga' corresponding to 'Grand Trunk Express.' If at all by 'Dakshiṇā patha Mārga' he meant the Avantī Mārga, it certainly existed in the west of the Vidarbha route and not between the Vidarbha and the Dakṣina Kosala route. It may however be pointed out that all these three routes seems to have formed the different

branches of a single routẹ connecting Māhiṣmatī with the kingdom of Dakṣiṇa Kosala via Dhanakaṭaka (Amrāvatī) having a branch line for Vidarbha.

We have noted about the maritime activities of the

Harappans,[1] which was extended up to *Ur* in the Mesopotamia through Persian gulf on one hand and up to atleast Lothal, where existed a dock-yard also, in the Kāthiāwāḍa, on the other.[2] It is probable that the Vedic Āryans, who were not ignorant of maritime activities[3] and had the knowledge of *samudra*[4] as well as were in the possession of ocean going ships of hundred oars,[5] might have also revived the maritime activities after the destruction of Harappan trade-ports, particularly in the costal region between Sindhu-Sauvīra *janapada* and the Saurāṣtra *janapada*. Unfortunalely, our knowledge of this coastal route during the Vedic period is very meagre. It is only from the *Periplus* that we get proper information about the coastal route and the ports of western India. It also provides a good knowledge about the land-routes, which connected the ports like Bharukaccha and Saurāṣtra with the internal trade-emporiums on Dakṣiṇāpatha and in the Tamil region.

According to the account of the *Periplus* the middle stream of the Indus at the mouth was navigable and on this stream there existed a commercial emporium named Barbaricum.[6] This was a port of another town known as Minnagara, which may be identified with the ancient Patala or Pataene.[7] Cargoes for export and import were transported by the ferry boats between Minnagara and Barbaricum.[8] The coastal route beyond the Indus delta upto the gulf of Cutch was very difficult.

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1. Supra., p. 45.
2. Supra., pp. 46–47.
3. This is a much debated topic. For different views, see *Vedic Index* Vol. II p. 432; *Vedic Age*, pp. 244, 396–397. *History of Indian Shippings*, pp. 25–26, 53, 55, 85.

A. L. Basham, *Studies in Indian History and Culture*, pp. 147–148.

4. *R. V.*, I. 56. 2, I, 25. 7, I. 48. 3, I. 56. 2. IV. 55.6; X. 136. 5. VII. 88. 3–4.
5. *R. V.*, I. 116. 3.
6. *Periplus*, 38.
7. *Arrian's Anabasis*, VI, XVII, p. 157. *Periplus*, 38, p. 166.
8. Ibid., 39.

Beyond the gulf of Cutch was the gulf of Barygaza at the coast of Ariaca (Aparāntikā). [1]

Barygaza (Bharukaccha or Bhṛgukaccha) was one of the most important emporiums of India, particularly of Western India. [2] In the *Jātakas* it has been described as an important seat of maritime trade and as a sea-port town (*paṭṭanagāma*) from where ships were going to Suvarṇabhūmi and Laṅkā. [3] The *Periplus* indicates that there was a route-link between Bharukaccha (Barygaza) and Ujjayinī (Ozene) [4] From Ujjayinī, as we have seen in the legend of Bāvari, this route joined the main Dakṣiṇāpatha, which from Pratiṣṭhāna went to Māhiṣmatī, Ujjayinī, Vidisā, Kauśāmbī, Sāketa, Śrāvastī and Rājagṛha. [5] The *Culla Seṭṭhi Jātaka* suggests that there was a route for Bharukaccha from Vārānasī also. [6] Perhaps, another route connected it with the city of Mādhyamikā [7] and Mathurā. The connection of Bharukaccha with the far south has also been indicated in the *Periplus*. It refers to the route, which connected Bharukaccha with other towns situated below the Narmadā on the Dakṣiṇāpatha (Dachinabades) and in the Tamil country (Damirica). A route from Bharukaccha proceeded south towards Pratiṣṭhāna (Paethana), which stood at a distance of twenty days journey from Bharukaccha. The same route connected Tagara, which may be identified with modern Ter. The distance between Pratiṣṭhāna and Tagara

1. *Periplus*, 41, p. 175.

2. Ibid., 38–41. According to Ptolemy Barygaza was the greatest market-town of Western India. McCrindle, *Ancient India as described by Ptolemy*, p. 153.

3. *Jātaka*,. Vol. III. pp. 188. IV. p. 137. *Milinda*, 330.

4. *Periplus*, 48.

5. *Sutta Nipāta*, verses, 970–976. 1011–1013.

6. *Jātaka*, Vol.1, p. 121.

7. Mādhyamikā is indicated in the *Periplus* by Minnagara. Schoff points out that Minnagara was the name given temporarily to several cities of Ancient India, *Periplus*, p. 165. Mādhyamikā or Minnagara near modern Chitor, was in a cotton growing district, from where cotton was brought to Bharukaccha for export. *Periplus*, p. 180.

was of ten days journey.[1] Pratiṣṭhāna was an important emporium of Roman goods, from where, Roman pottery has been found. From Pratiṣṭhāna a route for Nāsika can also be suggested. E. H. Warmington has pointed out that some Yavanas, who acted as agents for Roman traders in Bharukacha were settled at Nāsika.[2] Nevasa, where Roman pottery has been found, was also an important centre of trade having affinity with Nāsika. The route from Pratiṣṭhāna proceeded towards the east and connected Dhanakaṭaka and the other trade-centres in the Kṛṣṇā-Godāvari delta.[3] Both were capital towns of the Sātavāhanas and seats of trade and commerce.[4] We have noted earlier the reference to this route in the *Mahābhārata*.[5]

The next port below Bharukaccha was Sūrpāraka (Suppara). It was a sea-port of a market town named Kalyāṇa (Calliena).[6] The *Divyāvadāna* describes Sūrpāraka as a great seat of commerce, where traders used to flock with their merchandise.[7] Traders, while going to Suvarṇabhūmi, also used to visit this port for taking ships for Ceylon.[8] There was a direct route from Sūrpāraka to Śrāvastī. This route probably joined the Dakṣiṇāpatha at Māhiṣmatī via Kalyāṇa. A sailor named Suppāraka Kumāra is said to have performed a journey form Sūrpāraka to Śrāvastī, the distance being of 120 *yojanas*.[9]

The *Periplus* refers to a significant feature of the contest between Bharukaccha and Sūrpāraka in relation to the Greek and Roman merchants visiting India.[10] If a foreign ship

1. *Periplus.*, 51.
2. *Commerce between Roman Empire and India*, p. 68.
3. *Mauryas and Sātavāhnas*, p. 438.
4. C. Sivarammurti, *Amrāvatī Sculptures in the Madras Museum*, pp. 4–5.
5. Supra, pp. 85–87.
6. *Periplus.*, 52.
7. *Divyāvadāna*, p. 126.
8. *Dhammapada Aṭṭakathā* (H.O.S.Vol. 29) part II, p. 222, *D.P.P.N.* Vol. II p. 1222.
9. Ibid., (H.O.S. Vol. 29) part II. pp. 224–225; *Hist Geog*, p. 229.
10. *Periplus*, 52.

happened to visit the port of Sūrpāraka the guards of Bharukaccha forcibly conducted the ship to their own port. [1]

Kalyāṇa was really a good market-town and merchants of this city made liberal donations at Kanheri and at Junnar, [2] which were connected with Kalyāṇa. Form here two routes passed, one for Nāsika and the other for Poona. Pratiṣṭhāna was also linked with Kalyāna. [3] The distance between Pratiṣṭhāna and Kalyāṇa was less than the distance between Pratiṣṭhāna and Bharukaccha. But, the route between Pratiṣṭhāna and Bharukaccha was more popular and easier than the Pratiṣṭhāna-Kalyāna route. [4]

Below the port of Sūrpāraka there were several ports like Semylla, Mandagora, Palaepatmae, Melizigara, Byzantium, Togarum, and Aurannoboas. These were ordinarv ports and their identification is also difficult. [5] Other important ports were of Naura and Tyndis. [6] They were situated in the Tamil country. Schoff opines that Naura was in the territory of Satiyaputra kingdom and may be identified with modern Cannanore, where Roman coin have been found. Likewise he equates Tyndis with modern Ponnāni [7] on the western coast in the Cera-kingdom. This place lay at the mouth of the river of the same name. It was a natural terminus for the export of pepper produced here. [8] A great route, presumably existed along the course of the river Ponnāni from west to east, thus connecting the Western ghat with the Eastern ghat. According to K. Pillai this route passed through Palghat. [9]

1. *Periplus*, 52,
2. *Early History of the Deccan*, pp. 72–73.
3. *Sārthavāha*, p. 102.
4. Ibid p. 102.
5. *Periplus*, 53. Semylla, Mandagora, Palaepatmae, Melizigara, Byzantium, Togarum, and Aurannoboas may be identified with Chaul, near Bombay, Bānkot, Dābhol, Jaigarh, Vizadrog, Devagarh and Mālvan respectively. W. Vincent, *Commerce and Navigation of the Ancients in the Indian Ocean*, p. 124.
6. *Periplus*, 53.
7. Ibid. 53.
8. Ibid, pp. 204–205.
9. Kanakasabhai. Pillai. *Tamil Eighteen Hundred Years Ago*. p. 15.

Next important commercial port, according to the *Periplus* was Muziris. [1] Ptolemy, however, mentions two towns, Bramagara and Kalaikarias and three islands Noroulia, Kouba and Paloura between Tyndis and Muziris. [2] According to K. Pillai 'Bramagara may be identified with Brahankulam, Kalaikarias with Cholacorry and Paloura with Polayur.' [3]

Muziris has been located at Cranganore. [4] K. Pillai thinks that Muziris of the *Periplus* is the same as Muchiri or Muśiri of Tamil poets. [5] According to the Tamil poets Muchiri, situated near the mouth of the Periyar was frequented by the Yavana merchants. A poet describes the city, thus : 'the thriving port of Muchiri, where the beautiful large ships of the Yavanas bringing gold come splashing the white foam of the water of the Periyar and return laden with pepper.' [6] Another poet says 'Fish is bartered, which is brought in baskets to the houses; sacks of pepper are brought from houses to the market; the gold received from ships, in exchange for articles sold at Muchiri.' [7]

At a little distance from Muchiri, there was the ancient city of Vengi, the capital of Kerala on the river of Periyar. Vengi was at the modern Parur or Paravur, where the Pariyar river empties into Cochin back waters. Parur is still a busy trading centre. [8] It had routes connecting important marts of Pāṇḍya and Cola kingdoms. [9]

The next important part after Muchiri was Nelcynda. [10] The exact location of Nelcynda is uncertain, but it might have

1. *Periplus*, 53.
2. *India as described by Ptolemy*, pp. 48, 180.
3. *Tamil Eighteen Hundred Years Ago*, p. 18.
4. Caldwell, *Dravadian Grammer*, p 97.
5. *Tamil Eighteen Hundred Years Ago*, p. 18.
6. Ibid., p. 16
7. Ibid., P. 16.
8. *Imperial Gazetteer*, vol XX, p. 21. *Tamil Eighteen Hundred Years Ago* pp. 15–16.
9. *Beginnings of South Indian History*, pp. 138–139.
10. *Periplus*, 54.

been situated near the modern Koṭṭayam,[1] which is still a place known for its pepper. This port, however, was not situated at the coast, but the approach to the port was made through the upstream of a river.[2] It was an important trade-centre of the Pāṇḍyan kingdom and had a close coastal relationship with another port of the same kingdom named as Bacarē.[3] Ptolemy calls this port as Barkarē, which according to Scholf may be identified with modern Porkād.[4] K. Pillai and S. K. Ayangar identify Bacarē with the village Vaikkarai near Koṭṭayam.[5]

It seems that the export-trade of Nelcynda and Bacarē was jointly conducted (both being under one kingdom) and the ships of Nelcynda going abroad stoped at Bacarē to load the cargo from there also.[6] These two ports had routes for Madurā or Mathurā the seat of the Pāṇḍya kingdom. The *Periplus* mentions that the Kings of both these market towns lived in the interior of the country. From Madurā there was a route for Vengī, situated near the mouth of the river Periyar.[7]

From Bacarē the coastal-route proceeded towards Balita (modern Varkkallai) and Comari (cape Comorin). Next port in the Pāṇḍyan kingdom was Colchi (modern Kolkai),[8] which according to the *Periplus* was a better port than Nelcynda, and had a land-route connecting it with Madurā.[9]

Beyond Kolkai, the coastal route entered into Cola kingdom and reached the famous trade-centre of Argaru is Uraiyūr,

1. *Tamil Eighteen Hundred Years Ago*, pp. 19–20.
2. *Periplus*, 54.
3. Ibid., 55.
4. Ibid., p. 211.
5. *Tamil Eighteen Hundred Years Ago*, p. 19. *Beginnings of South Indian History*, p. 119.
6. *Periplus*. 55.
7. Ibid., 55. *Beginnings of South Indian History*, pp. 138–139.
8. *Periplus*, 58–59, pp. 234–238.
9. Ibid., p. 237.

the capital of the Colas.[1] A route connected Uraiyūr with Madurā, which passed along Sirumalai hills covered with the groves of mango, jack, coconut and palm trees and where onion, saffron, millet, hill-rice, edible roots, sugercane etc were cultivated extensively.[2]

According to the *Periplus* this city was the greatest market of pearls.[3]

Other commercial towns of the Cola-maṇḍalam were Camara, Poduca and Sopatma.[4] Camara may be identified with Kāverīpaṭṭanam or Puhar on the Eastern coast.[5] Kāverī paṭṭanam was a port-town. In the Tamil poems Puhar or Kāverī paṭṭanam has been described as a great commercial centre. The *Silapadikāram* says that the wise considered the property of Puhar as stable as the Himalaya and the Poliyan mountains.[6] 'This celebrated city, full of riches, coveted by kings and teeming with sailors, is so well stocked that it will not fail in its hospitality even if the whole world encircled by the roaring sea become its guest; indeed in the hoards of (merchandise) brought in ships and carts, (the city) resembles a congregation of all the alien tracts producing precious goods.[7] Another poet says 'big ships entering the port of Puhar without slacking sail, and pour out on the beach, inhabited by the common people, precious merchandise brought from overseas,"[8]

Poduca may be identified with Arikamedu, near Pondichery.[9] It was a great Roman emporium of the western coast. All these three ports, as the *Periplus* indicates had two fold traffic;

1. K. A. N. Sastri, *Colas*, Vol. I p. 22.
2. *Silapadikāram*, I. 1. 90–107.
3. *Periplus*, 59.
4. Ibid., 60.
5. *Silapadikāram* I. 11. 14–19.
6. Ibid., I. 11. 14–19.
7. Ibid., II. 11–1–4.
8. *Puram*., 30. 11. 11–14.
9. R. E. M. Wheeler, *Rome Beyond its Imperial Frontiers*, pp.173–175.

one local or coastal and the other sea-traffic.[1] In the time of Ptolemy, in the Cola-maṇḍalam there was one more port famous for its trade, named as Nikam (Negapattam).[2] Beyond the territory of Cola-manḍalam there were three ports and emporiums, Masalia, Dasarene (Daśārṇa) and Ganges.[3] Masalıa of the *Periplus* is modern Masulipatam, and was important commercial centre of the Āndhra-country. It was very famous for its muslin.[4] To the east of Masalia, there was the region of Dosarene, which produced ivory.[5] Motichandra identifies Dosarene with Tosalı.[6] Probably, Dosarene was the name of a *janapada* and its capital was Polura, which may be identified with Dantapura. Kalliṅgapaṭṭanam was the port of Dantapura.[7]

Ganges, according to the *Periplus* was a market town on the bank of the river of the same name.[8] But the Ganges was, perhaps, another name of the town of Tāmralıpti.[9] It was a great terminus port and from here the ships took off for their destınatıon to Suvarṇābhūmi and Ceylon.

With Tāmralipti we complete our survey of ancient Indian trade-routes of Northern India and Dakṣiṇāpatha. We see that Western as well as Eastern coasts had a number of good harbours and emporiums, which were centres of export and import trade of India. From these ports, at convenient poınts, issued forth a net work of trade-routes to inland markets and cıties. Thıs survey of ancient Indian trade-routes shows that India ın those days had really a remarkably extensive trade and commerce within the country as well as outside.

1. *Periplus*, 60.
2. *Colas*, vol. II p. 22.
3. *Periplus*, 62–63.
4. Ibıd, 62.
5. Ibid., 62.
6. *Sārthavāha*, p. 120.
7. Ibid., p. 120. P. C. Bagchi, *Pre-Āryans and Pre-Dravadians*, pp. 163–164.
8. *Periplus*, 63.
9. Ibid., p. 256.

CHAPTER V

TRADE-ROUTES CONNECTING INDIA AND OUTSIDE WORLD

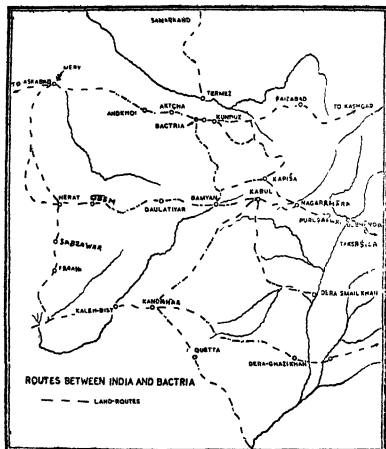
Before the 2nd century B. C. land routes between India and the west were more popular than the sea routes, particularly through the Red Sea. The two main protohistoric land routes between India and the West, however, underwent great changes. Many great commercial centres of protohistoric civilisation, not only in Seistan, Persia, Susania and Mesopotamia, but in India itself were reduced to dust and equally great and prosperous towns of trade and culture grew up during the historic times. This fall and rise of cities changed considerably the line of protohistoric routes, and some of them, such as the route between India and Mesopotamia through Makran became completely infructuous for international commerce. [1]

Some of the cities of historic times, which controlled the trade between India and the west were Bactria, Merv, Ecbatan, Ctesiphon and Seleucia. From the point of view of Indian trade, Bactria held the position of importance because from there the Indian commodities passed to Khotan, Yarkand, Kashgar and China in the east; to the valley of the Oxus in the north-west; and to the valleys of Euphrates and Tigris in the west. Bactria had thus become a clearing house for Indian trade and served as an important emporium not only of Indian goods, but also of goods, brought from countries such as China, Siberia and Iran. [2]

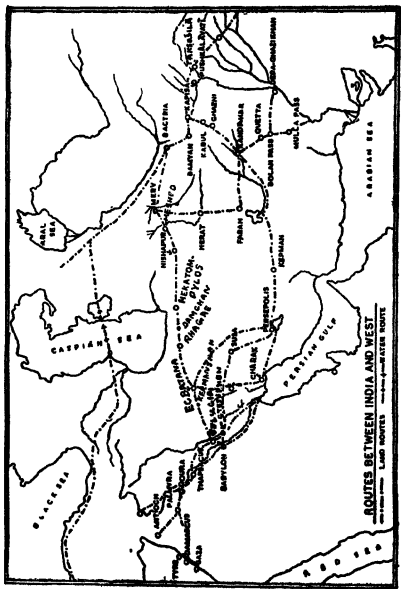
The old route from Takṣaśilā to Bactria crossed the river Indus at Udabhāṇḍa [3] This route going in the north-west reached Varṣapura (Po-lu-sha) near Shāh bāzgaṛhi. [4] The proximity of the famous rock inscription of

1. *Commerce between Roman Empire and India*, pp. 22, 25.
2. *Greeks in Bactria and India* .p.121,
3. *Ancient Geography of India*, pp. 52. 65, 67,
4. A Foucher. *Notes on the Ancient Geography of Gandhāra*, (Tr. by H. Hargreaves) pp. 21-24

Aśoka is a proof of the antiquity and importance of this route.[1] From there, the traders passing via Hoti-Mardan reached Puṣkalāvatī, the modern Charsadda.[2] Then the track descended to the south-west and reached Puruṣapura (modern Peshawar) near Shāh-jī-kī-Dhērī. From Puruṣapura the route, through Khyber Pass entered the region of Kapiśā. There were three

ROUTES BETWEEN INDIA AND BACTRIA

routes across the Hindukush into Bactria, all being commanded by Kapiśā at the junction of the Panjshir and Ghorband rivers.[3]

1. *Notes on the Ancient Geography of Gandhāra*, pp. 21–24.
2. Ibid., p. 16.
3. *Greeks in Bactria and India*, p. 139.

ROUTES BETWEEN INDIA AND WEST

in Syria.[1] The route from Bactria to Merv passed via Askabad. From Merv it went to the south west to Meshed and Nishapur and from there to Rhagæ (near Tehran) via Hekatompylos, and Damghan. From Rhagæ the route passed to Ecbatana (Hamdan), which was a great seat of commerce being the sumer capital of the Achemenid Kings.[2] From Ecbatana it continued for Ctesiphon, Seleucia and Babylon.[3] Seleucia and Babylon, for long, served as emporiums of Indian goods coming through the main land-route discussed above (Bactria-Hekatompylos-Ecbatana-Seleucia route) or by the southern land-route through Siestan and the gulf of Ormuz or directly by the sea-route from Barygaza or Patala.[4] From Ctesiphon there was a land-route via Babylon to Hira, another important trade-centre in the second century A. D.[5] The route between Hekatompylos and Hira has been described in the *Hou-han-shu.* The *Annal* says that 'from An-hsi (Hekatompylos) you go west 3400 li to the century of A-man (Ecbatana); from A-man you go west 3600 li to the country of Ssu-pin (Ctesiphon) from Ssu-pin you go south crossing a river (Tigris) and again south-west to the country of Yu-lo (Hira) 960 li; then extreme west frontier of An-hsi,[6] Alexander while invading the empire of Darius III followed this very route between Ecbatana to Hekatompylos through Rhagæ and the Caspian gates.[7]

The relations of India with Syria both economic as well as culture were quite intimate. Aśoka sent his philanthrophical mission to Amtiyoka[8] (Antiochos II Theos) the King of

1. *La Vielle Route,* Vol. II. p. 326.
2. Ibid., Vol. I. pp. 3–6. *Greeks in Bactria and India,* p. 362 ; *Commerce between Roman Empire and India,* pp. 22–23.
3. Ibid., p. 22.
4. *Greeks in Bactria and India,* p. 363.
5. F. Hirth, *China and the Roman Orient,* Sketch map showing overland route between Ctesiphon to Hira. Map. 1.
6. Ibid., p. 153–154.
7. J. B. Bury, *History of Greece,* pp. 783–84. Map showing the empire of Alexander.
8. *Political History of India,* p. 331. Rock Edict XIII of Aśoka.

The central route was difficult, the north-western route, which lay through Khawak pass was long, but the south-western route through Bamyan was very suitable for trade and transport between Kapiśā and Bactria. [1] Kapiśā, or Kāpiśī has been identified with modern Begram. From Begram this route between India and Bactria acquired a real international characteristic. [2] Foucher has designated this route as the *grande route*. This route, as he says, though difficult and high was almost inevitable for the traders of India. But he believes that the old route between India and Bactria passed through Begram (Kapiśā) and not through Kabul and that between Kapiśā and Bactria it ran via Bamyan following the left bank of Ghorband river and through the Ghiber pass. From Bamyan the route proceeded towards the north and the north-west through several difficult passes such as Robāt, Daṇḍan, Shikan and Karakotal and then proceeding along the river Darra Yousuf it went to Bactria from some place near Mazār-i-Śarīf.

Bactria occupied an important position as a centre of transit-trade between India, China and Central Asia and the Mediterranean world. Numismatic evidence eloquently suggests that the scale and volume of trade at Bactria was quite high and the countries taking part in the trade were many. [3] Its significance as a trade-centre was remarkable, particularly before the development of sea-routes between India and the west. As a junction of land trade-routes, it controlled Oxus trade with India, exercised a commanding position in the Indo-Syrian trade and also when the real silk-trade between China and the west Asiatic countries began, it took prominent part *in the commerce, which flourished through the silk-route.*

Once an Indian trader had reached Bactria, he had a direct route before him for the west Asian markets such as Antiochia-Margiana in the Merv oasis, Seleucia on the Tigris and Antioch

1. *Greeks in Bactria and India*, p. 139.

2. *Bulletin of the School of Oriental Studies*, Vol. VI. p. 341 *La Vieille Route*, Vol. I. p. 28.

3. Rostovtzeff, *Social and Economic History of the Hellenistic Empire*, pp. 545–54.

Syria. Much of the industrial development of Syria was based on Indian supplies of raw material.[1] It had many prosperous industrial centres such as Antioch, Palmyra and Damascus. Antioch was a magnificent city, second only to Alexandria in political importance and to none in wealth.[2] The routes between Seleucia and Antioch were several, but the normal one crossed the Euphrates and ran up to the west bank by Doura to Nicephorium at the mouth of the Belık, and then to Zeugma. From here one branch went southward to Palmyra, Damascus and the Phœnician towns, and another to Antioch.[3] Aśoka had relations also with the neighbouring kings namely, Ptolemy II Philadelphos, king of Egypt; Magas, king of Cyrene in North Africa, Antigonas Gonatas, king of Macedonia, and Alexander who ruled either Epirus or Corinth.[4] To most of these places the routes went from Antioch; either through Asia Minor to the great sea ports of Ionia[5] or along the eastern coast of Mediterranean touching the famous markets of Sidon, Tyre and Gaza to Alexandria.[6]

Arrian suggests that from Thapsacus at Euphrates there were two routes for Babylon;[7] one along the left course of the river Euphrates and the other through northern Mesopotamia via Arbela.[8] This route had approach to Susa also. Alexander marched from Babylon to Susa along this route.[9] From Ctesiphon a route connected Charax at the mouth of the Tigris. Charax was connected by road with the Silk route at Seleucia

1. M. P. Charlsworth, *Trade Routes and Commerce with Roman Empire*, p. 44.
2. Ibid., 146.
3. *Greeks in Bactria and India*, p. 62.
4. *Political History of India*, pp. 331–332.
5. *Greeks in Bactria and India*, p. 62.
6. *Commerce between Roman Empire and India*, p. 12.
7. *Arrian's Anabasis*, III. 7. 3. 4.
8. A. Stein identifies Arbela with Erlih. *Geographical Journal*, 1942, pp. 159-164.
9. *Arrian's Anabasis*, III, 16. 2. *History of Greece*, pp. 778–80.

and by river and road with Palmyra. [1] The road between the two Persian capitals Susa and Persepolis has been explored by A. Stein. This route passed through Behbehan, Basht and Fahlium to the Ardakan plateau. [2] Along this route Stein has discovered a series of ancient remains. [3] He has found traces of the actual route between Susa and Persepolis at Tange-i-khas, Pul-i-murad and at Tange-i-gerrau. [4] From Persepolis a route proceeded to meet the northern route at Ecbatana. [5] The direct route between Persepolis and Ecbatana, however, was not via Susa. [6] A route from Charax via Persepolis connected Merv on the same northern route. [7] This route was through Helmand Delta and Herat. [8] From Helmand Delta this route proceeded to Kandahar, which was at an important junction of ancient routes. From here a route proceeded also to the lower Indus via Kandahar and Bolan. Another route went north-eastward to Gazni and Kabul and joined the main Bactria-Takṣaśilā route at Kapiśā. From Kandahar a route proceeded to Merv via Farah and Herat. Likewise Kandahar was connected with an important western route, which passed by Persepolis, Susa, Seleucia, and Babylonia. [9] From Herat to Bactria there were two routes, one via Kabul and the other via Bamyan. [10] The latter route was however of greater significance from the point of view of trade.

There was yet another route along which Indian goods were sent to Russia and to other western countries along the river Oxus. There were some routes around the

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1. *Commerce between Roman Empire and India*, p. 30.
2. *Old Routes of Western Iran*, pp. 18–19.
3. Ibid., pp. 18–19.
4. Ibid., pp. 14–17.
5. *Arrian's Anabasis*, III 2–3.
6. *History of Greece*, p. 783
7. *Greeks in Bactria and India*, p. 54.
8. Ibid., p. 54.
9. Ibid., p. 93.
10. Bunbury, *History of Ancient Geography*, Vol. I. pp. 424–425.

Caspian Sea, which went to Black Sea ports.[1] Strabo informs us that in the time of Alexander the river Oxus was so easily navigable that wares of India (from Bactria ?) were brought down to the Caspian sea and thence to Euxine. From Euxine the routes were for the ports at the Black Sea and at the Mediterranean.[2]

We have a fairly good idea of the coastal route of India and of the ports situated on the Western and the Eastern coasts of the South Indian peninsula.[3] Barbaricum, a port on the mouth of the river Sindh,[4] was the most important emporium for the exchange of commodities of India, Tibet, Persia and China.[5] It was also the terminal point for ships going to the port of Charax through Persian gulf and to Eudaemon around the Arabian coast. The voyage of Alexander's admiral Nearchus from Patala to the Persian gulf gives a good idea of the coastal route from Patala and Barbaricum to the Persian gulf. He performed the voyage from Patala to Badis in the Bay of Jusk, in 75 days. This route had as many as 21 stations.[6] But the whole route was full of difficulties. Near Isthuphgei it was infested by Indian pirates. From Badis it bifurcated for Charax and Eudaemon.

This route mainly represented the proto-historic coastal trade-route,[7] which we have traced earlier. During the historic period also it continued to flourish. Bands of traders from

1. *Commerce between Roman Empire and India*, p. 26.
2. Mc Crindle, *Ancient India as described in Classical Literature*, p. 96. *Commerce between Roman Empire and India*, p. 27. *Trade Routes and Commerce of the Roman Empire*, p. 58. *Intercourse between India and the Western World*, p. 1.
3. Supra, pp. 87–94.
4. *Periplus*, p. 165.
5. *Commerce between Roman Empire and India*, p. 9.
6. Nearchus started on 1 October from Patala and reached Badis on 15 December. *The Commerce and Navigation of the Ancients in the Indian Ocean*, Vol. I. pp. 198–269.
7. Supra, pp. 46–48.

India regularly went to Babylon. The *Bāberu Jātaka*[1] informs us that Indian merchants periodically voyaged from India to Babylon along the coast of the Persian gulf. The admiral Nearchus took the same route from Badis to reach the Persian capital. From Badis in Carmania he voyaged along the same coast and anchored near the river Mina at a distance of fifty miles from Badis.[2] Next he came to Oaracta which W. Smith identifies with modern Arek or L' Arek.[3] From here his fleet staying at several stations came to mount Okhus, which as W. Smith points out is the termination of a high range at the coast of Dahhr-Asban.[4] Then his fleet came along the coast from Okhus to Rhogonis, modern Bander-Reigh via Apostami Cape, Naban, Gogana (modern Konkun or Congoon) Sitakus, Çape Verdistan, Hieratis, Mesanbaria and Taoke.[5] Bander-Reigh was the port of communication between Shiraj and Basra but was out of the track for ships, bound for the port of Bander Bushir,[6] which was more important. Navigation along the coast of Susania was difficult on account of shoals.[7] Then the fleet of Nearchus entered a lake in the west of Bandar Bushir. This lake might have been the Chaldean lake of Pliny. From here the fleet proceeded to the port of Dirodolis (the termination point of the voyage of Nearchus), from where the land-route lay for Susa.[8] Beyond Dírodolis, some where in the Shat-le-Arab, the route continued for Charax, from where the important Babylonian towns, Ctesi-

1. *Jātaka*, Vol. III, p. 126.
2 *Commerce and Navigation of the Ancients in the Indian Ocean*, Vol. I. p. 316.
3. Ibid., Vol. I. p. 348.
4. Ibid., Vol. I. p. 379.
5. Ibid., Vol. I. pp. 379–401. The correct identification of the above mentioned places has not been possible.
6. Ibid., Vol. I. p. 402.
7. Ibid., Vol. I. p. 457.
8. Ibid., Vol. I. p. 467.

phon and Ecbatana, were easily approachable through the up streams of the river Euphrates.

A route from Barbaricum went to Eudaemon (Yemen) passing along Ras Musandan, Ras Had, Ras Madraka. On this route, beyond, Ras Madraka was Moscha (Khor Reiri) and Cane (High Ghorab). Both these ports were good emporia of Indian goods and were full of Indian traders.[1] Beyond Cane was Eudaemon. This port was the most suitable meeting place for the Indian, Arab, African and Greek traders.[2] From Eudaemon the sea-route entered the Red Sea and touched the ports of Ocelis (near Cella) and Muza on the eastern coast and Adulis on the western coast.[3] Following the same coast, the route from Adulis continued up to Berenice, which was the most favourite African port of Indian traders.[4] From Berenice, the Indian traders either took the desert-route to Alexandria via Coptos or continued through the western route to the mouth of Nile via Myos Hormos.[5]

Alexandria was an important emporium of Indian goods, from where there was a direct route for Puteoli, the famous port of Rome.[6] A route from Antioch also joined this main route. There was however a direct route for Brundisium, another port of Rome, passing through several commercial cities of Corinth and Athens.[7]

This coastwise voyage from Indian ports such as Muzēris, Barygaza, Patala etc., to Alexandria was very tedius and fraught with recurrent danger of piracy. From the *Periplus* and Pliny's *Natural History* we know about the discovery of Hippalus, who had studied the location of the ports and the conditions of the sea in about 45 A. D. The former mentions the discovery in a

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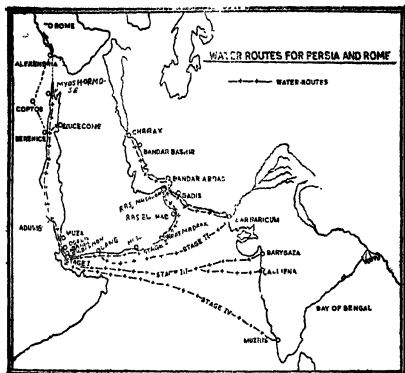
1. *Commerce between Roman Empire and India*, p. 9.
2. Ibid., p. 9.
3. Ibid., p. 9.
4. Ibid., p. 9.
5. Ibid., p. 8.
6. Ibid., p. 4.
7. Ibid., p. 4.

most general manner, but Pliny suggets that the discovery was made in four successive stages and Hippalus made the discovery only on the second of the four stages.[1] According to E. H. Warmington the first stage of the route lay (from the time of Alexander to the time of Nearchus) from Arabian

Eudaemon following round all the gulf, coasted along Arabia, perhaps even to Ras Musandan or to Rasel Had only and then along the Asiatic coasts of Carmania and Gedrosia to the Indus and then southwards. In the second stage (40-41 A.D.) sailors started either from Arabia Eudaemon, or from Cane till they came to Ras Fartaka (Syagros), from where they went direct to Patala. In the next stage of the discovery (41-50 A. D.) traders

1. *Pliny*, VI. 26. *Periplus*, pp. 226-230. *Ancient India as Described in Classical Literature*, p. 111. *Commerce between Roman Empire and India*, pp. 44-45. *Rome beyond its Imperial Frontiers*, p. 154.

not desiring to go to the Indus, directly sailed from Arabia Eudaemon or from Cane or from Ras Fartaka proceeded direct to Sigerus or Melizigara somewhere near Bombay,[1] from where Barygaza was also near.[2] In the fourth stage (about 50 A. D.) men intending to go direct to Tamil land after leaving Ocelis, the ruins of Arabia Eudaemon, Cane or Cape Guardafui in July they could by throwing the ship's head off the wind with a constant pull on the rudder and a shift of the yard (thus sailing in an arc of a circle) go across to Malabar marts in forty days.[3]

It may be that the knowledge of the so called Etesian winds came to Greeks and Romans through Hippalus and the 'Hippalus Discovery' might have produced good influence on the balance of Romano-Indian direct trade, but it is difficult to admit that the Indians were altogether ignorant of the movements of Etesian winds.[4] We have pointed out above that the mariners of India, particularly of Bharukaccha very carefully studied the nature of unseasonable winds (*akālavāta*).[5] The knowledge of so called first stage of the monsoon discovery among the Greeks, was actually due to an Indian, who warned the admiral Nearchus that the movements of south-west monsoon was unfavourable for his retreat journey, therefore he waited for a change in the movement of the seasonal winds.[6] The first Egyptian sailor, Eudoxus Cyzicus, who visited India twice was guided by an Indian trader. This Indian was rescued by the Egyptian guards of the Arabian gulf, who had found him

1. *Ancient India as Described in Classical Literature*, p. 111.
2. *Commerce between Roman Empire and India*, p. 45.
3. Ibid., pp. 45–46.
4. Kennedy, *J. R. A. S.*, 1898. pp. 272–273. *Periplus*, p. 227. Lassen prefers to call the discovery of Hippalaus 'a rediscovery,' He believes that the movement of the south-west monsoon were known to Phoenicians, who traded through Red Sea with the port of Ophir at the Western coast of India. Lassen's History of Indian Commerce, *J. B. O. R. S.*, Vol. X. 1924, p. 282.
5. *Jātaka*, Vol. IV. pp. 141–142. Supra, p.
6. *Arrian's Anabasis*, VI. 17. pp. 126–127.

in a ship alone and half dead. His other companions had perished because of the want of provisions. [1] The direct route from Bharukaccha to the Mediterranean sea, which marked the second stage of the so called discovery, was known to Indian mariners. This can be inferred from the *Suppāraka Jātaka*. This story says that a company of traders under the guidance of a blind guide name Suppāraka Kumāra from Bharukaccha, went to the west through the seas of Khurumāla, Aggimāla, Dadhimāla, Nīlakusamāla, Nalamāla and Valabhāmukha. Scholars infer from these names and the description given in the *gāthā* that Khurumāla, Aggimāla, Dadhimāla, Nīlakusamāla, Nalamāla and Valabhāmukha may be identified respectively with some portion of the Persian gulf touching the south eastern end of Arabia, Arabian coast near Aden or some portion of Somali land, the Red Sea, Nubia on the north eastern corner of Africa, the Canal joining the Red Sea with the Mediterranean sea ond the Volcano-sea i.e. some portion of the Mediterranean sea where volcanoes are still to be seen. [2] The knowledge of the Indians about this route was not limited up to the Mediterranean, but some of them could go beyond this sea. A company of Indian traders is said to have reached Germany having been perhaps driven by storms. [3] It is, however, difficult to say if these Indians 'sailed round the Cape of Good Hope, through the Atlantic ocean and thence to Northern seas, or whether they made a voyage still more extraordinary, by passing the Island of Japan, the Coast of Siberia Kamachatska, Zembla in the Frozen Ocean and thence round Lapland and [4] Norway either into the Baltic or the German sea. It is also evidently known that Socotra [5] the ancient Dioscorida had a

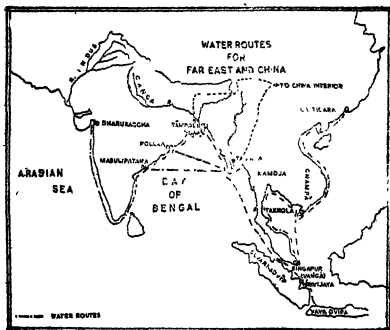
1. *Ancient India as described in Classical Literature*, p. 97.
2. K.P. Jayswal, *J. B. O. R. S.* Vol. VI. p. 195. *Pre-Buddhist India*, p. 228.
3. *Ancient India as described in Classical Literature*, p. 110.
4. Ibid., p. 110. Foot note. 3.
5. It was near the mouth of Red Sea. The Sanskrit name of Socotra, according to Von Bohlem, was 'Sukhādhāra or Dvīpa Sukhādhāra. *Periplus*, p. 133.

mixed population of Greeks, Arabs and Indians. The *Periplus* expressely mentions that Indians along with others had 'emigrated to carry on trade there'.[1] The presence of Indian merchants in Alexandria is attested by Dion Chrysostom. A remarkable epigraphic record showing the presence of Indians in Egypt has been found in the temple of Redesie, on the trade-route from the Red Sea port of Berenice to Edfu on the Nile.[2] Certain 'Sophon the Indian' paid his homage to a Greek god Pan in the temple of Redesie. All these show that Indians frequently visited at least upto Red Sea, hence it cannot be surmised that the movements of south-west monsoon were not known to Indians.

So far we have seen the extention of maritime contacts of the Indians in the west. More extensive and vigorous contacts of Indians were with the east. They, due to economic as well as cultural reasons, developed routes with the Far East and as most of the countries now known as Far East were approached by Indians in search of gold, the land in the east and the south east of India became aptly named as Suvarṇa-bhūmi, the Eldorado of Indian traders.[3]

Gold was rare in India and for its supply India for long depended upon Bactrian traders who brought the Siberian gold to India.[4] In the first century B. C. the source of supply was considerably obstructed due to the nomadic movements in Central Asia.[5] The other source of gold supply through the currency of Rome, particularly in the Tamil country, was also stopped by the Roman emperor Vespasian (67-79 A. D.). These coins came to India in exchange for luxuries.[6] Pliny

1. *Periplus*, 30.
2. *Ancient India as Described in Classical Literature*, p 212; *Commerce between Roman Empire and India*, p. 77, *Studies in Indian History and Culture*, pp. 152-153.
3. R.C. Majumdar, *Champa*, pp. 18-23.
4. Hirth, *Chau Ju Kua*, p. 4; *Greeks in Bactria and India*, pp. 104-9.
5. *Chau Ju Kua*, p. 14.
6. *Commerce between Roman Empire and India*, p. 213.

mentions how serious was the effect of the drain of Roman currency on Roman economy.[1] The two main sources of gold supply having been stopped, Indians looked towards the Far East for obtaining gold. Some *Jātaka* stories refer to traders and adventurers, who undertook the voyage to Suvarṇabhūmi for wealth and profit.[2]

There were several trade-routes between India and the Far East. One route started from Bharukaccha to the coast of Suvarṇabhūmi[3] and Yavadvīpa.[4] The next route started

1. Pliny, XII. 41.; *J. R. A. S.*, 1904, pp. 515–516.
2. *Jātaka*, Vol. III. p. 188. Vol. IV. pp. 15, 17, 158, Vol. VI. pp. 30–34.
3. Ibid., Vol. III. p. 188,
4. There is a story preserved in the chronicles of Java that the island was first colonised by a Gujrata prince, who landed there in 75. A. D. *Champa*. p. XII. R. C. Majumdar *Suvarṇadvīpa*, Vol. I. p. 4.

from Masulipatam and went across Bay of Bengal to the Eastern Peninsula. [1] This was the most direct route for Yavadvīpa (Java), Suvarṇadvīpa (Sumatra), Champā (Annam) and Kamboja (Cambodia). As this route was through the high seas, a special type of ship known as *colandia* was required. Ptolemy informs us about another route, which was generally adopted by the traders of Kalinga. The ships starting from Polūra modern Gopalpur, near the mouth of the Ganjam, crossed the Bay of Bengal for the Eastern Peninsula in the Far East. [2] For the traders of Mathurā, Kauśāmbī, Vārāṇasī and Campā the most convenient port was Tāmralipti. From Tāmralipti the ships sailed on the open sea for Suvarṇabhūmi and other countries like Yavadvīpa, Campā and Kamboja. When a regular sea-route between India and China had become popular, the port of Tāmralipti became the most suitable port for a trader from China wishing to trade with Northern India. A mission from Funan, which started for India, in the first century A. D. actually landed on the port of Tāmraliptī.

Fortunately, the different stages of the coastal route between India and China touching the coasts of Indian trade-colonies are indicated in the *Mahāniddesa*, the *Geography* of Ptolemy, *Bṛhatkathāślokasaṁgaraha*, *Kathāsaritsāgara*, *Bṛhatkathāmañjarī* and the *Annals* of the Former Han Dynasty.

A study of the itinerary given in these works suggests that the routes coming from Polūra and Tāmralipti met at Sada in the north of Sandowy. [3] But in the *Mahāniddesa* [4] Gumba or Ho-P'u of the Chinese *Annals* [5] is mentioned as the first port. Unfortunately the identification of Gumba is

1. *Periplus*, 60.
2. G. E. Gerini, *Researches on Ptolemy's Geography*, p. 743.
3. *Commerce between the Roman Empire and India*, p. 126.
   According to Gerini Sada was the most suitable terminus of the route coming from India. *Researches on Ptolemy's Geography*, pp. 45-47.
4. *Mahāniddesa*, Vol. I, pp. 154-155, Vol. II, pp. 414-415.
5. *Mauryas and Sātavāhnas*, p. 772.

not possible. [1] In the *Mahāniddesa* the places coming after Gumba are Takkola, Takkasilā, Kālmukha, Maraṇapāra, Vesuṅga, Verāpatha, Java. Tamāli, Vaṅga, Elavaḍḍhana, Suvaṇṇkūṭa, Suvaṇṇabhūmi etc [2] But this order of enumeration of the stages in the route militates against account in the *Geography* of Ptolemy. According to the *Mahāniddesa* Takkola is the only place coming between Gumba and Takkasilā. But according to Ptolemy, several ports between Sada and Takkola there were such as Besynga and Temala. Besynga is mentioned in the *Mahāniddesa* as Vesuṅga [3] and in the Chinese *Annals* as Pitsong or Pitsuong. [4] According to Sylvain Lēvi, Vesuṅga may be identified with Pegu. [5] The Verāpatha of the *Mahāniddesa* may be identified with Barabai of Ptolemy, which was situated in the South of Besynga. [6] From Verāpatha the route touching the coast of Temala and Cape Negrais proceeded to the Malaya region. [7]

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1. S. Lēvi, "Ptolemy the Niddesa and Bṛhatkathā" translated by P. C. Bagchi in *Sino Indian Studies*, Vol. II, No. 2, p. 62. According to P. C. Bagchi Ho-P'u may be located in China. He points out that the itinerary starts from the coast of China and terminates with the Indian coast. Thus the route from Ho-P'u passed along Pi-Tsong, Tu-yuan, Yi-lu-mu, Chen-li, Fu-kau-tu-lu and Huang-che. These places, according to P. C. Bagchi, stood for Gumba, Visuṅga, Taṅgana, Ilvar(dhana), Tamāle, Pugam—(?) and Gaṅga. *Mauryas and Sātavāhnas*, pp. 771-772.
2. *Mahāniddesa*, Vol. I. pp, 154-155, Vol. II. pp. 414-415.
3. Ibid., Vol. I. pp. 154-55, Vol. VI. pp. 414-15.
4. *Mauryas and Sātvāhanas*, p. 772.
5. *Sino Indian Studies*, Vol. II. No. 2 p 73.
6. Ibid., Vol. II. No. 2. p. 77.
7. *Commerce between Roman Empire and India*, p. 126.

   Temala may be Tamāli of the *Mahāniddesa*, S. Lēvi places it in the vicinity of Pihang. *Sino Indian Studies*, Vol. II, No. 2. p. 80. It also can be identified with Chen-li of the Chinese *Annals*, *Mauryas and Sātavahnas*, p. 772.

The Malayan Peninsula played a very important part in the maritime activities of the Indians in the Far East since long before the Christian era. It was in the centre of India and China. Its famous port was Takkola, which may be identified with Takua Pa. [1] It was a good market of tin[2] and perfumes.[3] A Chinese embassy during the Wu dynasty of China (229–265 A. D.) while going to India came to the port of Takkola and then took the route to India through gulf of Martaban. [4] A direct route also flourished from Alosygni near Masulipattam to Temala and Takkola. [5]

The next port in the same country (Silver Country of Ptolemy's *Geography*) [6] was Sabana (Satuny or Thakung), [7]

From Takkola Indian traders and colonists could proceed by land or sea to Siam, Combodia, Annam and even further East. This trans-peninsular route, as R. C. Majumdar points out, was followed by many who wanted to avoid the long and risky voyage through the straits of Malacca. [8] But more popular was an all sea route, which offered a shorter passage to Yavadvīpa and avoided the inconvenience of transhipment. [9]

From Takkola the route proceeded to the Yavadvīpa, which according to Warmington included Sumatra as well as Java islands. [10] Yavadvīpa was famous for its gold. [11] Sumatra

1. *Hindu-Colonies in the Far East*, p. 16. Warmington identifies it with Rangoon. *Commerce between Roman Empire and India*, p. 127. Gerini places Takkol in Central Malaya. *Researches on Ptolemy's Geography*, see map No. 1.
2. Ibid., p. 18.
3. *Milinda*, 359.
4. *Researches on Ptolemys Geography*, p. 93.
5. *Commerce between Roman Empire and India*, p. 126.
6. *Geography of Ptolemy*, pp. 136, 141, 198–199.
7. *Commerce between Roman Empire and India*, p. 127.
8. *Hindu Colonies in the Far East*, p. 16–17.
9. Ibid., p. 17.
10. *Commerce between Roman Empire and India*, p. 128.
11. Gold is found only in Sumatra and not in Java. Ibid., p. 128.

had trade-contacts with India since the early centuries of Christian era though Indians exercised their political power from the fourth century onwards. [1] Java played an equally important role in the trade between India and the Far East. It was colonized in the first century A. D. by Aji Saka of Gujrat. Later on, Indian traders developed their direct relations with China proper in the second century A. D. during the regime of Deva Varman—a Hindu King of Java. [2] The routes coming from Java and Takkola joined some where near Singapore the ancient Vaṅga mentioned in the *Mahāniddesa*[3] and from there the two routes proceeded towards Campā (Annam) and Kamboja (Cambodia). A voyage along the eastern coast of Malayan Peninsula was also possible for the traders bound for Siam. By the first century A.D. Siam was also colonized by the Indians. [4] From Vaṅga the route came to a port near Zabae[5] in Kamboja and from there the same route went around the coast of Campā (Annam). Both these countries were in regular trade-contact with India long before their colonization by Indians. [6] The route between Campā and India was long and circuitous. According to the Chinese tradition a King of Campā sent an embassy in about 240-245 A. D. It took nearly one year to reach the mouth of Gaṅgā from Campā.[7]

The route from Campā to Sinae [8] (China) was a direct one. A trader from Tabae in Kamboja could reach Cattigara[9] (Canton), the most important emporium of Sinae, within

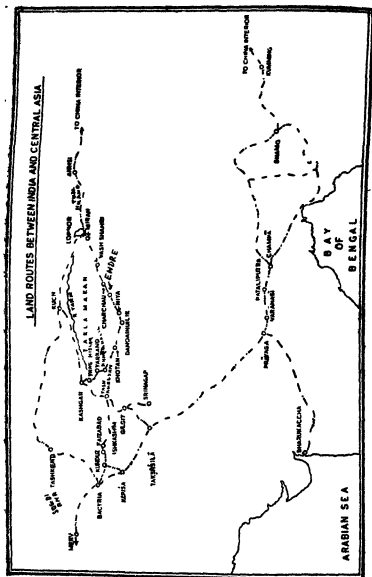
1. *Hindu Colonies in the Far East*, p. 19.
2. Deva Varman sent an embassy to China in 132 A.D. Ibid., p. 19.
3. *Sino Indian Studies*, Vol. II, No. 2. pp. 81-82.
4. *Hindu Colonies in the Far East*, p. 221.
5. *Commerce between Roman Empire and India*, p. 126.
6. *Hindu Colonies in the Far East*, pp. 154-155.
7. *Champa*, p. 17.
8. The southern China, which was visited by the sea-routes was called Sinae and the northern China which was approached through land routes was known as Seres. *Commerce between Roman Empire and India*, p. 129.
9. Cattigara has been identified with Canton, as well as with Hanoi or Kianchi in Tong King. Ibid., pp. 125-26.

a few days.[1] According to a Chinese itinerary of the first century B. C., the voyage from the frontiers of Je-nan (Tonkin), Siu-wen and Ho-p'u along Tu-yuan, Yi-lu-mu, Chen-li, and Fu-Kan-tu-lu to Huang-Che usually took a period of more than one year.[2]

We have very little knowledge of the land-routes, which passed between India and Burma and its adjoining countries. Sir Aurther Phayre observes that traditions among the Burmese, the present remains and names of ancient cities, render it probable that early communication between Gangetic India and Tangaung existed and was carried on through Eastern Bengal, and Manipur.[3] The existence of such routes in the second century B C. has been confirmed by Pelliot, who says that there was a regular trade-route by land between Eastern India and China through Upper Burma and Yunnan.[4] Through this route Indians came and established their political power in Upper Burma and the mountaineous regions of the Upper valleys of Irawadi, the Salween, the Mekong and the Red river as far as Yunnan.[5]

The oldest route between India and China was probably through Assam, Upper Burma and Yunnan. Long before the 2nd century B. C., Chinese cotton and bamboo were carried through this route from China to Bactria via India.[6] It was mainly through this route that the Chinese silk came to Bharukaccha (Barygaza), which later on was imported in the emporiums of Seleucia and Alexandria.[7] P. C. Bagchi indicates

1. *Champa*, p. 18.
2. According to P. C. Bagchi the Chinese itinerary as well as the itinerary given in the *Niddesa* describe the places beginning from the coast of China and terminating at Indian coast. *Mauryas and Sātvāhanas*, pp. 771-772. But, as the identification of the place is still uncertain, we are unable to follow his view.
3. Phayre, *History of Burma*, p. 15.
4. *Bulletin de 1 Ecole Francaise 1' Extreme Orient*, 1904, pp. 142-143.
5. *Champa*, pp. 13-14.
6. P. C. Bagchi, *India and China*, pp. 5, 16.
7. *Periplus*, 48, 64, *Greeks in Bactria and India*, p. 364.

that this Assam-Burma route to China started from Pātaliputra passed through Campā (Bhagalpur) Kajangala (Rajmahal)

and Puṇḍravardhana (North Bengal) and proceeded to Kāmarūpa (Gauhati). From Assam three routes went to Burma. One, through the valley of the Brahmaputra up to Patkoi range

and then through its passes up to upper Burma; the second through Manipur up to the Chindwin valley; and the third through Arakan upto the Irawadi valley. These three routes met on the frontier of Burma near Bhamo and then proceeded over mountains and across river valleys to Yunnan-fu i.e. Kunming, in the southern province of China. [1]

Some routes connected India and China via Bactria. Indian traders generally coming from Takṣaśilā to Bactria via Kapiśā [2] had several routes for China through Central Asia. A northern route passed through Sogdiana and crossed Jaxartes and reached Tashkend. From Tashkend, the way was open to Uch-turfan through the pass of Tien-Shan. [3] But this route from the Indian trade point of view was not important. Indians, generally adopted those routes for China, which were through Tashkurghān. There were two routes between Bactria and Tashkurghān; one passed past Pamir through Alai valley and the other through Badkhshan. At Kunduz, a direct track met this route from Kabul and Kapiśā also through the Khawak pass. [4] This route avoided Bactria, and from Kunduz proceeded eastward along the right course of the Oxus through the valley of Kokcha upto Faizabad. From Faizabad through the the difficult course of Abe-Punjab the main route proceeded eastward upto Tashkurghān via Sarhad. [5] Tashkurghān was approachable through Gilgit also. This route was of very significance and passed through Hunza, [6] the Kilik pass and the Vakhjir pass. [7]

Nature itself has marked Tashkurghān as the most convenient place for trade. From here the route ran to Kashgar

1. *India and China*, p. 17.
2. There were other minor routes between Kapiśā and Bactria, Supra. pp. 95–96.
3. *India and China*, p. 11.
4. *La Vielle Route*, Fig. 6.
5. A. Stein, *On Ancient Tracks Past Pamir*, pp. 4–5.
6. A. Stein, *Ancient Khotan*, Vol. I, p. 1. A. Stein, *Archaeological Explorations in Chinese Turkistan*, pp. 7–8.
7. Ibid., pp. 9–11.

through the Chichiklik pass and Yangi-Hissar, [1] Hiuen Tsang, while coming to India took this route for his approach from Tashkurghān to Kashgar. [2]

Kashgar was a very important station on this route. Kumārajīva (c. 400 A. D.) and Dharma Gupta (c. 593–595 A. D.), while going to China on religious mission, stayed at Kashgar. [3] In the 2nd Century A. D. probably through trade-contacts, Kashgar was influenced by Hīnayāna Buddhism. [4]

From Kashgar, there were two routes of equal significance. One passed to the south of the river Tarim and the other to its north. The northern route from Kashgar went towards Anhsi (China) via Lopnor and the southern route proceeded to China via Yarkand. From Kashgar the trader for Yarkand had to come due south down to Yangi-Hissar and from there to Yarkand. For Yarkand there was, however a direct approach also from Tashkuarghān. 'Yarkand undoubtedly', as Stein remarks' 'owes its old established prosperity and its flourishing trade to its position at the point where the great routes from Khotan, Ladakh and the Oxus are joined by those leading to Kashgar and the north east part of Tarim basin.' [5] Thereafter crossing the river Yarkand, the route passed to Khotan via Karghalik (Che-Chu-Chia). [6] At this place Buddhism flourished long before Hiuen-Tsang.[7] From Karghalik, the route, which passed via Guma from Khotan, was of long antiquity, and was traversed by Fa-hien and Sung Yūn. [8] Pialma (P'o, ch-ieh) was the next station, having political as well as cultural relationship with Kashmir through Ladakh and Karakoram. [9]

1. *Archaeological Explorations in Chinese Turkistan*, pp. 11–12.
2. *Ancient Khotan*, Vol. I. pp. 40–41.
3. Ibid., Vol. I. p. 48.
4. Ibid., Vol. I. p. 56.
5. Ibid., Vol. I. p. 88.
6. Ibid., Vol. I. p. 89.
7. Ibid., Vol. I. p. 90.
8. Ibid., Vol. I. pp. 97–99.
9. Ibid., Vol. I. p. 118, 156–164.

Khotan, according to Hiuen-tsang, was a colony of Indians planted by Kuṇāla, the crown prince of Aśoka. Its capital was Yotkan, from where the route passed through Dandan, Ulik, Niya and Endre. All these places, according to Stein were great centres of Buddhism and had contacts with India.[1] After crossing the river Endre in the east, the route went to Miran through modern Charchau and Vāsh-Shahri.[2] Next important station was Miran, in the Tarim Basin. From Miran, the route passed through the southern basin of the Tarim river to Tun-huang, which was the western most confine of China proper. Stein, estimating the historicity of this route, observes that this route passing south of Lopnor had been used as a main line of communication into China from the time of the Han dynasty. Hiuen-Tsang and centuries after him Marcopolo had followed this track through the desert.[3]

The northern route was also important from the point of view of Indian trade and cultural contact. The route between Kashgar and Kuch, an important trade-colony,[4] passed along Faizabad, Maralbashi, Uch Turfan and Aksu.[5] From Kucha, the route proceeded to join the main route coming via Khotan to Tun-huang. The main route from Miran for Jade-gate passed through the desert of Lopnor.

Stein has discovered a number of ancient towers and the ancient Chinese lime-line on this route. The Chinese lime-line was fairly extended between Jade-gate (Yumen-Kuan) and Su-Chu in Kansu.[6] All these military measures were to protect this highway, which was of great commercial significance.[7]

Though this main line of communication went well in to China in the east, it seems that Tun-huang oasis, beyond Jade-

1. *Ancient Khotan*, Vol. I. pp. 243, 267, 311, 421–438.
2. A. Stein, *Innermost Asia*, Vol. I. p. 157.
3. A. Stein, *On Ancient Central Asian Tracks*, p. 116.
4. *India and China*, pp. 14, 15.
5. *On Ancient Central Asian Tracks*, pp. 281, 282.
6. Ibid., pp. 160–167.
7. Ibid., p. 178,

gate in the east, was the most important caravan *sarai*, which provided shelter to the monks as well as to the traders coming from India and Bactria. The importance of Tun-huang[1] as a carvan *sarāi* for the traders of India was recognised since the first century of the Christian era. In the third century there were actually some settlements of Indian families, probably of the traders.[2]

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1. *On Ancient Central Asian Tracks*, pp. 194, 197–200.
2. *India and China*, p. 16

CHAPTER VI

JOURNEY CONDITION

We were so far tracing the trade-routes. The conditions obtaining on routes affected the volume of trade-activity. There is no doubt that insecurity on the routes was the general characterstic of the Vedic times. It wasnot possible during those days to protect the trade-routes from thieves and wild animals. The routes were open to good as well as wicked people. [1] Enemies of commerce like (*arātim*), thieves (*paripanthin*) and wild animals (*mṛga*) infested the routes and caused loss of life and property to the traders. [2] Vedic literature abounds with the instances of thieves obstructing travellers and hurting them. [3] Some roads were so rough that the vehicles had difficulty in gaining speed. [4] During these insecure journeys travellers generally depended on divine guidance [5] and prayed for protection and easy routes. [6] Sometimes, wherever possible, the travellers took the guidance of local people. [7] But in

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1. ये ते पन्थानो बहवो जनायना रथस्य वर्त्मानसश्च यातवे । यैः संचरन्त्युभये भद्रपापस्तं पन्थानं जयेमान मित्रमतस्करं यच्छिवं तेन नो मृड ॥

   A. V., XII. 1. 47.
2. Ibid. III. 15. 1. Sāyaṇa explains अरातिम as वाणिज्य विघातकम्; परिपन्थिनम् as परिपन्थिनम् पर्यवस्था ता.रं मार्गनिरोधकं चोरम् and मृगम् as व्याघ्रादिकम् च नुदिनम् हिंसन् ।
3. Ibid, IV. 28, 3, V. 50, 3, X. 4, 6, *A. V.*, VI. 121, 4.
4. *R. V.*, I. 106, 1.
5. Ibid. I. 42, 7-8. III. 62, 13, IV. 32, 4. V. 54, 6, VI. 21, 12, VI. 23. 3, VI. 47. 7, VI. 54. 1, II. 34, 5, VIII. 82. 10, *A. V.*, XII. 1. 47, XIV. 1. 34. *T. V.* 16. 10.
6. Indra is prayed for easy route in *R. V.*, 1, 91 1. Similar prayers for Marut are in *R. V.*, II. 34, 5. Agni and Indra were prayed for protection of routes. Ibid., I. 42. 7. II. 27. 7. IV. 32. 24. VIII. 22. 10. *A. V.* XII. 1. 47. *T. V.* IV. 29. VII. 43.
7. *R. V.*, I. 183, 5. X. 32, 7.

seeking guidance from unacquainted persons, at times they ran the risk of being misguided by way-layers.[1]

The attempts to improve road-conditions were not lacking in the Vedic times. As a result of these activities there developed some good roads. The Vedic word *prapatha*[2] probably did not refer to ordinary roads (*patha*) but to comparatively better ones. Similar was the sense of the Vedic *mahāpathas*.[3] The existence of bridges cannot be substantiated (*setu*[4] in the Vedic literature may suggest an ordinary causeway) but there were good fording-places (*tirthās*).[5]

It is however difficult to confirm the suggestion of S. C. Sarkar[6] that the "pillars standing in the way 'mentioned in the bridal *Sūkta* of the *Atharva Veda*' may refer to barrier posts for levying of toll or octroi on the trade-routes. The text of the *Sūkta* does not provide indication of the toll.[7] From the

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1. *R. V*, I. 42. 2. *A. V*, XII. 2. 11.
2. In *R. V.*, X. 17, 6. पथ and प्रपथ occurs. The study of the passage प्रपथे पथामजनिष्ट पूषा shows that god Pūṣā created प्रपथ (superior routes) out of पथ (minor or ordinary routes). प्रपथ occurs also in *R. V.*, X. 63, 16. *A. V.*, VII. 9, 1. XVIII. 2, 55. XVIII. 2, 49. *Ait. Brā*. VII 15. *Kāthaka Saṃhitā*. XXXVIII. 14. Similarly प्रपथी, traveller on प्रपथ occurs in *R. V*. VI. 31, 5. I. 173, 7. VIII. 1, 30 etc.
3. *Ait. Brā.*, IV. 17. 8. *Chāndyoga Upaniṣada*, VIII. 6, 2. S. C. Sarkar points out that महापथ of Vedic literature agrees fully with the महापथ occuring in the early Buddhist literature. S. C. Sarkar, *Some Aspects of the Earliest Social History of India*, p. 14.
4. *R. V*. IX. 41, 2. *Taittarīya, Saṁhitā.*, III. 2. 2-1. VI. 1, 4, 9. VI. 5. 3. 3. VII 5. 85. *Kāthaka Saṁhitā.*, XXVII. 4. *Ait. Brā*. III. 35, *Tait. Brā*. II. 4, 2, 6 *Śat. Brā*. XIII. 2, 10, 1. etc.
5. सुगं तीर्थं सुप्रमाणं शुभस्पती स्थाणुं पथिष्ठामप दुर्मतिं कृतम् *A V.*, XIV. 2. 6.
6. *Some Aspects of the Earliest Social History of India*, p. 14.
7. Text runs as follows :—मा हिंसिष्टं कुमार्यं स्थूणे देवकृते पथि। शालया देव्या द्वारं स्योन कृण्मो वधूपथम् ॥

   A. V. XIV. 1. 63. Whitney translates it 'Injure ye not the maiden (*kumarī*) ye (two) pillars, on the god made road ;

expression *prapathesu khādayo* [1] Sarkar has deduced that *prapatha* and *tīrtha* were the rest-houses.[2] But probably this refers to the routes, where food provision was easily available.[3] There were also some *āvasatha* (rest-houses) to give shelter to the weary merchants during nights.[4] The success of a journey depended much upon the physical strength and the abilities of traders. Hence, before starting on a trade-journey they offered oblation to Indra for getting speed, energy and strength.[5] In the *Jātakas* there is a marked distinction between the highway or royal road (*mahāmagga, mahāpatha, rājamagga*) and the bye path (*upapatha*), [6] which indicates that road-conditions were far from rudimentary.[7] Therefore, we cannot agree with the view of Rhys Davids that during 'Buddhist India there were no made roads.' [8] One *Jātaka* represents Bodhisattva as making roads with the help of many co-workers. The main work in making a road consisted of removing stone-bats from the way, cutting the obstructing groves and trees on either side, levelling and widening the road, making causeways.[9] *Rāmāyaṇa* presents a more elaborate account of road-making.

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the door of the divine house we make pleasant, a road for the bride.'

It seems to me that the polls on the bridal road were for decoration (*toraṇa*). There is nothing to suggest that they were barrier posts.

1. *R. V.*, I. 166. 9.
2. *Some Aspects of the Earliest Social History of India*, pp. 14–15.
3. Sāyaṇa explains प्रपथेषु खादयो as प्रपथेषु प्रगताः पन्थानो येषु विश्रामस्थानेषुतानिप्रपथानि तेषु खादयः खाद्यानि भक्ष्याणि आहितानि
4. *Ait. Upan.*, III 12. *A.V.* IX. 6 5., *Tait. Brā.*, I. 1. 10. 6; III.7. 4. 6., *Śat. Brā.* XII. 4. 4. 6., *Chānd. Upan.* IV. 1. 1., *Āpastamba Śrauta Sutra*, V. 9. 3., *Āpastamba Dharma Sutra*, II. 9. 25. 4.
5. इध्मेनाग्न इच्छमानोघृतेन जुहोमि हव्यं तरसे बलाय। *A. V.* III. 15. 3.
6. *Jātaka*, I. pp. 351, 196, II. pp. 3, 70, 303, III. p. 49, V. pp. 106, 266, Gāthā, 81, VI. pp. 51. 179.
7. *Pre-Buddhist India*, p. 229.
8. Rhys Davids, *Buddhist India*, p. 61.
9. *Jātaka*, Vol. I, p. 199.

It refers to different classes of people, who were responsible for the construction of road known as *vartmakarmaṇī kovida*.[1] They included soil-experts (*bhūmipradeśajña*), surveyors (*sutrakarmaviśārada*), diggers (*khanaka*), labourers (*karmāntika*), masons (*sthapati*), engineers (*yantrakovida*), carpenters and wood-cutters (*vardhakī* and *vṛkṣa-takṣaka*), well-diggers (*kūpakāra*), builders of rest-houses (*sabhā-kāra*), and other minor works in leather and bamboo (*vaṃśacarmakāra*).[2] From the duties of these specialists for road-construction and repairs it appears that before a road was made the nature of ground and the lay-out of the land were properly studied. Surveyors measured the land and demarcated the length and the breadth of the road. Diggers were engaged in removing the superfluous earth coming in the way being assisted and guided by a large number of labourers and masons. Engineers made the necessary causeway and dikes. If the road passed through a forest, the wood-cutters and carpenters cleared the way by cutting trees. But, if it passed through a treeless region, the planters of trees planted groves and trees to provide shade. To provide travellers with water, wells were dug at suitable places and rest-houses were constructed. According to the *Rāmāyaṇa* all these details were actually followed, when Bharata proceeded from Ayodhyā to meet the exiled Rāma. [3]

But, this idealistic description of road-making referring to a highly organised method of road construction as prevalent in ancient India does not necessarily imply that such agencies were permanently working on the roads. The context in which this description is found proves that the road on which Bharata had to march was not in perfect condition and consequently he had to take special measures [4] for putting it in order. Likewise when Buddha had to visit Rājagṛha, he had to wait till roads were repaired at Vaiśālī. [5] Most of the routes open

1. *Rāmāyaṇa*, II. 80. 5.
2. Ibid., II. 80. 1–3.
3. Ibid., II. 8. 5.–22.
4. Ibid., II. 79. 13.
5. *Jātaka Aṭṭhakathā*, III p. 170.

to the traders and their caravans, particularly of pre-Mauryan era, were unsafe and rough and passed through dense forests or through waterless deserts.[1]

The traders and their caravans had to face great hardships in passing through the forests, which presented five fold wilderness viz. the wilderness caused by robbers, wild animals draught, demons and famine.[2] The forest-routes infested with groups of robbers were detrimental to the cause of trade-activities.[3] Robbers sometimes lived collectively in villages ready to way lay the merchants.[4] *Mahābhārata* also refers a class of professional robbers living in the forests of the north eastern region of India.[5] Caravans before entering the forests, therefore, used to hire the guidance of local foresters living in villages situated at the enterance to the forests. *Khurappa Jātaka* informs us that once Bodhisattva was a forest-guide. He lived in a village along with five hundred foresters and used to hire himself out to guide men through the forest. He charged a thousand pieces of money and serving earnestly he was to save the caravan of five hundred waggons from the attacks of the robbers living in the forest.[6] In another *Jātaka* story of a Brāhmaṇa caravan-leader is mentioned, who hired the warders of the forest for a safe passage.[7] Sometimes, even when traders were warned previously about robbers infesting a forest, they could not avoid the route and by

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1. *Jātaka*, Vol. I., p. 194.
2. कान्तारमं नाम चोर कान्तारम् वाळकान्तारम् निरुदककान्तारम् ।
   अमानुषकान्तारम् अपभक्खकान्तारम् ति पंच विधम् ॥
   Ibid., Vol. I. p. 99.
3. Ibid., Vol. I p. 283, II. p. 139, III. p. 59 etc.
   The dangers of forests are described in *Rāmāyaṇa*, II. 28. 4. 26.
4. A. L. Basham, *Wonder that was India*, p. 224. *Jātaka*, Vol. IV. p. 431.
5. प्रागुत्तरां दिशं ये च वसन्त्याश्रित्य दस्यवः ।
   निवसन्तिवने ये च तान् सर्वान् जयत प्रभुः ॥ *Mbh.*, Sabhā, 27. 24.
6. *Jātaka*, Vol. I. p. 335.
7. Ibid., Vol. V. p. 22.

hiring local guides, adventurously faced the danger of robber's attack. [1]

States also protected traders against the robbers and the thieves. It was thought that without such protection the existence of trade-route was not possible. [2] Kings were expected to appoint a regular army for catching the robbers infesting the routes. [3] Mauryan kings appointed *antapāla* [4] and *choraranjjuka* [5] to safeguard the routes. *Jātakas* refer to some instances of robbers being captured. When caught, the robbers were punished by the state with the death penalty. [6] Some kings, did not realise their responsibilities towards the protection of routes and encouraged robbers to rob the traders. They accepted from the robbers some gratuity and allowed them to do marauding activities against the traders. [7]

Wild animals were also a cause of danger to the traders. One *Jātaka* informs us that even the great highway of Vārāṇasi was once blocked by wild tigers. [8] The caravan, which Damayantī accompanied was murderously ravaged by a herd of wild elephants. [9]

Before entering any forest the caravan-leaders warned fellow traders against the innocent use of unfamiliar poisonous leaves, flowers and fruits announcing it by beat of drums.

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1. *Jātaka*, Vol. V. p. 471.
2. न योनि दोषोवर्त्तने न कृषिर्न वणिक्पथः *Mbh.*, Śānti, 68. 21.
   नराजके जनपदे वाहनैः शीघ्रगामिनः ।
   नराजके जसपद्रे वणिजो दूरगामिनः
   गच्छन्ति क्षेमध्वानं बहुपण्य समन्विता ।
   Rāmāyaṇa, II., 67, 18, 22.
3. *Mbh.*, Sabhā, 5. 83. *Vinaya*, Vol. I pp. 88–89, 220, III. p. 212 IV. Ma. 63, 120. sutra. p.
4. *Artha.*, IX. 3. 11.
5. Ibid., IV. 13. 16.
6. *Jātaka*, Vol. II. p. 139. Vol. III. p. 59.
7. *Aṅguttara Nikāya*, Vol. III. pp. 98–99.
8. *Jātaka*, Vol. I., p. 252.
9. *Mbh.*, Vana., 65. 7–15.

Caravan-leaders were equipped with medical provisions to meet such evil infestions. Thus, a *Jātaka* informs [1] us that once some members of a caravan took poisonous honey paying no heed to the instructions of the caravan-leader, and had to be administered some drug to cause vomiting. [2]

As the forest-routes were not clearly marked out due to the luxurious vegetation, there was every possibility of losing the right track. [3] Sometimes, due to this reason the whole caravan lost the right track. Thus, a caravan of five hundred cart-loads is referred to have entered a wild forest, where there was no road ahead. [4] Even where the tracks were marked out, they were not sufficiently clear to allow a free passage to the chariots and carts due to the obstructing trees, growing on the track [5]

The journey through the desert was almost like a voyage in the sea. The traders were guided by desert pilots (*sthalaniryāmaka*), who guided the caravans by studying the movements of the stars. [6] The greatest difficulty for a trader travelling by a desert route was to procure adequate provision of food and drinks. Therefore, before the caravans entered into deserts, they had to equip themselves with 'fire, wood, water, oil, rice etc'. [7] They had to carry on their carts jars of water, which was used only when urgently needed. *Apaṇṇaka Jātaka* informs us that the Bodhisattva when a young caravan-leader, instructed fellow traders not to use even a palmful of water without his sanction. [8] Sometimes the caravans had to suffer from absolute scarcity of water and then they had no alternative but to dig wells for water. [9] Because of general

1. *Jātaka*, Vol. I., p. 54.
2. Ibid., Vol. III., p. 201.
3. Ibid., Vol. IV., p. 91.
4. Ibid, Vol. IV., p. 351.
5. Ibid., Vol. I., p. 200.
6. Ibid., Vol. I. p. 108.
7. Ibid., Vol. I., p. 107.
8. Ibid., Vol. I., pp. 100, 103.
9. Ibid., Vol. I., p. 100 Vol. I, p. 109

scarcity of provisions, a group of traders would prudently avoid the company of another group.[1] Though it was not considered good that more than one caravan should go by the same route, it was difficult to decide as to what was better—to go first or to go last. One caravan-leader, who went first thought of the many advantages. He calculated that 'I shall have a road which is not yet cut up; my oxen will have the pick of the grass; my men will have the pick of the herbs for curry; the water will be undisturbed.'[2] But another trader regarded it more advantageous to go in the last. He thought 'those who go first will level the road where it is rough, whilst I shall travel along the road they have already travelled; their oxen will have grazed off the coarse old grass, whilst mine will pasture on the sweet young growth which will spring up in its place; my men will find a fresh growth of sweet herbs for curry where the old ones have been picked; where there is no water, the first caravan will have to dig to supply themselves and we shall drink at the wells they dug.'[3] Most probably the question of a caravan starting first or last depended upon the condition of road, which the caravan had to follow.

To avoid the sun, travellers generally marched in the night. 'At dawn they used to arrange their carts in a circle to form a laager with an awning spread overhead, and after an early meal used to sit in the shade all the day long. When the sun went down, they had their evening meal; and as soon as the ground became cool, they used to yoke their carts and move forward.[4] Sometimes, marching during the night the whole caravan used to go astray if the pilot fell asleep. Then it was difficult to retrace the right track.[5] Retracing was really a difficult problem in the desert. The *Divyāvadāna*

1. *Jātaka.*, Vol. I., p. 99.
2. Ibid., Vol. I., p. 99. (c) p. 4.
3. Ibid., Vol. I., p. 100. See also the translation. Ibid., Vol. I. (c) p. 4.
4. Ibid., Vol. I., p. 107. see also the translation. Ibid., Vol. I (c) p. 10
5. Ibid., Vol. I., p. 107.

describes the difficulties of a trader, who lost his way in a desert due to wind, which made the footprints untraceable.[1]

When the caravan-leaders found it necessary to travel through a desert in the sun, they generally in order to escape from the dust and the wind, changed their position in the caravan according to the directions of the wind. Thus, 'whenever the wind blew in their teeth, they rode infront of their carriage with their attendant around them in order to escape the dust. But when the wind blew from behind them, then they rode like fashion in the rear of the column'[2] But sometimes, from the point of view of safety, it was the middle position, which was considered better than the front or the rear.[3]

Sometimes when the roads were not broad enough to allow two carriages to cross one another, carriage-drivers had heated discussions as to who should give way to the other; in practice the person who proved to be in any way inferior had to yield.[4] Such a controversy was a common feature of the day. The *Dharmasūtras* lay down rules to decide as to who is to give way in favour of the other.[5] Thus, he says 'the road belongs to the king except if he meets a Brāhmaṇa. But if he meets a Brāhmana the road belongs to the latter. All must make way for a laden vehicle, for a person who carries a burden, for a sick man, for a woman and others (such as old men and infants). And (way must be made free) by the other castes for those men who are superior by caste. For their own welfare all men must make way for fools, outcasts, drunkards and mad-men.'[6]

1. *Divyāvadāna.*, p. 4.
2. *Jātaka*, Vol. I. p. 101.
3. *Divyāvadāna*, p. 3.
4. *Jātaka*, Vol. IV., p. 3., III. p. 105.
5. Ibid., (c) Vol. I, p. 101.
6. राज्ञः पन्था ब्राह्मणेनाऽसमेत्य ।
   समेत्य तु ब्राह्मणस्यैव पन्थाः ।
   यानस्य भाराभिनिहितस्याऽऽतुरस्यस्त्रिया इति सर्वैर्दातव्यः ।
   वर्णज्यायसां चेतरैर्वर्णैः ।
   अशिष्टपतितमत्तोन्मत्तानामात्मस्वस्त्ययनार्थेन सर्वैरेव दातव्यः ।

   Āpastamba Dharma Sūtra, II. 5. II. 5-9.

Usually, every passenger took his food provision (*pātheya*) with him, but, if in special circumstances, any one lacked it, he asked for food from his fellow traveller. In doing so, however, he had to consider whether the person offering food was of a high caste or not. [1]

Rest-houses (*sabhā*) are known from the *Jātakas*. Generally the rest-houses were situated in the cities [2] or in the border towns between the two *janapadas*. If such rest-houses were not available, traders took shelter in the houses of the *gṛhasthas* either free or on payment, which was sometimes in kind. The traders gave to the master of the house a portion of their merchandise if the latter so desired. [3] It was a serious situation for a trader if he was refused admission in the city due to his late arrival at the city gate. To stay out side the city with his whole stock of merchandise was unsafe and risky. He had either to stay with the gate-keepers or to go to some other place. [4] But some cities had rest-houses outside the city-gate also. [5] City gates were generally open from morning to evening. But, before the gates were closed, the gate-keeper used to announce thrice that it was time to close the gates. [6]

The problem of crossing rivers in the way was solved either by fording or by boats. There might have been some sort of causeway or dykes for crossing small rivers, but the existence of bridge is not convincingly proved. The narrative of Rama bridging the ocean suggests that the *setu* of the time was nothing but a spanless dam or dyke. [7]

Roads and facilities for journey were, however, considerably improved during the Mauryan days. Under Kauṭilya the

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1. *Jātaka*, Vol. II., p. 83.
2. Ibid., Vol. II., p. 85. *Sabhā* and its use as guest-house is known from *Āpastamba Dharma Sūtra*, II. 10 25 also.
3. *Jātaka*, Vol. II., p. 287.
4. Ibid., Vol. II, p. 16.
5. *Dhammapada Aṭṭakathā*, (H. O. S. Vol. 30) part III. p. 170.
6. *Jātaka*, Vol. II., p. 379.
7. *Rāmāyaṇa*, Yuddha, 22.

administration of road-making became important function of the state; as it was realised to be a potent source of state revenue. [1] Trade-routes were to be looked after and protected by *samāhartā*[2] and thus they became safe for regular traffic. The king was expected not only to keep roads of traffic free from the molestations of courtiers (*vallabha*), of workmen (*karmika*), of robbers and boundary-guards, but also keep them safe from being destroyed by herds and cattle. [3]

The width of the different types of roads generally varied from two *aratnis* to eight *daṇḍas*, according to the nature and significance of vehicular or pedestrian use. [4]

As the roads were under state control, the traffic was regulated by a system of passes. [5] A system of road-cess was also introduced. According to the *Arthaśāstra*, the officer incharge of boundaries (*antapāla*) was to receive a *pana* and a quarter as road cess (*vartanī*) on each load of merchandise. Likewise he was to receive a *paṇa* on a single-hoofed animal, half a *paṇa* on each head of cattle, a quarter on a minor quadruped and a *māṣa* on a head load of merchandise. [6] The most attractive and equitous feature of this taxation system was that the officer incharge of boundaries had to make good the loss caused to the merchants, while travelling in the area under his supervision. [7] Megasthenes refers to some officers, who constructed roads, and at every ten stadia set up a pillar to show the bye-roads and distances. [8]

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1. स्थलपथो वारिपथश्च वणिक्पथः *Artha*, II. 6. 8.
   इत्याय शरीरम् Ibid , II. 6. 9.
2. समाहर्त्ता दुर्गराष्ट्रं खनिं सेतुं वनं व्रज वणिक्पथे चावेक्षेत । Ibid., II. 6. 1.
3. वल्लभैः कार्मिकैः स्तैयैरन्तपालैश्च पीडितम् ।
   शोधयेत्पशुसंघैश्च क्षीयमाणवणिक्पथम् ॥ Ibid., II., 1. 46.
4. Ibid., II. 4. 4-6.
5. Travelling without pass was punished with a fine of twelve *paṇas*. Ibid., II. 34. 1-3.
6. Ibid., II. 21. 28-29.
7. नष्टापहृतं च प्रतिविद्ध्यात् । Ibid , II. 21, 30.
8. Megasthenes, *Indica*. Frag. XXXIV Strabo, *Geography*, XV. 1. 50.

In the big cities there were charitable institutions (*dharmavāsthinaḥ*) open for travellers, but the traders generally stayed at the houses of their fellow traders. In such cases the city traders were to report about the commercial dealings and activities of the foreign traders to the superintendent of the city.[1]

The details of the improvements made by Aśoka in the road-system of his time are not known. But this much is certain that to provide shade to the travellers, banyan trees were planted and mango orchards were set up along the road-side by the officials of Aśoka. To provide water facilities, wells were dug at every eight *kosa* and many drinking sheds were constructed at different places. Besides, rest-houses were also made on the road-side by the Aśokan government.[2]

We have referred to above the maritime activities of the Āryans.[3] Vedic ships were not confined to the coastal routes only, they sometimes adopted mid-ocean routes also and went far from the shore, from where the coasts were not visible.[4] The incidents of ship-wreck were common,[5] sometimes navigators had also to suffer from the shortage of fresh water.[6]

During the post-Vedic period maritime activity became more intensive and very popular. Though a ship was considered one of the six injurious things,[7] the hope of profit, motivated people to take to maritime trade[8] as a sure source of wealth. Sometimes, people resorted to it, when they had no hope to earn their fortune in any other manner. Thus, inspite of his mother's warnings against the dangers of sea, a prince took to maritime-trade in the hope of getting sufficient money for

1. *Artha*. II. 33. 6–7.
2. P. E., VII. R. E., II.
3. Supra., p. 87.
4. *R. V.*, VI. 62. 6.; VII. 68. 7; X. 143. 5; Maritime activities of the Āryans are also proved by *R. V.* I. 116. 3; I. 56. 2; I. 48. 2; I. 255; I. 25. 7; VII. 88. 3–4. etc.
5. Ibid. VI. 62. 6; VII. 68. 7; X. 143. 5.
6. Ibid. VII. 89. 4.
7. *Jātaka*, Vol. V., p. 433.
8. *Divyāvadāna*, p. 142.

military operations against his uncle, who had usurped the throne of his father.[1] *Sankha Jātaka* tells us the story of a pious *Brāhamaṇa*, who sailed to *Suvarṇabhūmi* for gaining wealth, when he found his means not adequate for his charitable activities.[2] For ambitious traders, land-trade was not considered so lucrative as maritime trade; therefore, merchants, when they had sufficient marine provisions from inland-trade, started for maritime-trade.[3]

The mid-ocean routes were not regarded as safe[4] after seven days journey, and the incidents of ship-wrecks generally occurred after seven days. To avoid such unfortunate incidents, merchants engaged the services of ocean-guides (*jalaniryāmaka*). At Sūrpāraka, there lived some merchants under a master, whose profession was to guide sea-traders on the seas. There was a certain navigator named Suppāraka Kumāra, who was so wise and intelligent in the art of naviagation that 'with him aboard no ship ever came to harm.'[5] These experts were not only trained in shipmanship, but used to acquire sufficient knowledge and experience about the valuation of different commodities. Thus, according to this *Jātaka* story, when Suppāraka Kumāra became invalid for sea-voyage due to a fatal injury on the sea, he was employed as a royal-valuer. The experience of the navy-guides was regarded so imprtant that traders hired even blind navigators in case they were of extra-ordinary intelligence and experience.[6] Ocean-guides had their guilds under the headship of a *jeṭṭhaka*.[7]

While plying in the mid-ocean, the crows were of great help to navigators in showing the right direction.[8] We have

1. *Jātaka.*, Vol. VI., p. 34.
2. Ibid., Vol. IV., p. 15.
3. Ibid., Vol. IV., p. 2.
4. Ibid., Vol. IV., pp. 2–16, Vol. II, p. 111. etc.
5. Ibid., Vol. IV, p. 137.
6. Ibid., Vol. IV. p. 139.
7. Ibid., Vol. IV. pp. 137–139.
8. Ibid., Vol. III. pp. 126–127, 267, IV. p. 137 ; *Dīgha Nikāya*, Vol. I. p. 220.

referred to above how these intelligent guides were also watchful of the ocean-currents.[1] Routes and directions were also determined by mariners by watching the movements of stars.[2] Though some mechanical device was known to Indians[3] for the guidence in the sea, probably mariner's compass was not known to them.[4]

It was a common belief among the sea-traders that if there is a ship-wreck, the pious and the virtuous get the chance to survive through the divine grace. Sometimes, the cause of peril in the ship was attributed to the presence of strangers, who were considered impious. Such unfortunate voyagers were liable to be cast off in the sea.[5] There were virtuous and religious traders, who kept fast for several days and did not break it even in extra-ordinary circumstances. Thus, a *Jātaka* story informs us about a trader, who refused to break his fast while struggling for life in the ocean for seven days, when goddess Maṇimekhalā bade him to take something.[6]

Generally, when death was apprehended on account of ship-wreck, passengers made great hue and cry, but there were some, who instead of lamenting against fate, tightend their belt to struggle for existence against the roaring waves of the sea. Thus, we read in one story that when a merchant apprehended a ship-wreck, instead of weaping and crying he climbed up the mast and casting off all fear of the fish and turtles dived off to swim for the shore.[7] Likewise, the *Mahājanaka Jātaka* speaks of a trader, who, when found his ship sinking in the middle of the ocean, did neither weep nor lament nor invoke any deity, but rubbed some sugar and *ghee* and

1. Supra., p. 8.
2. *Jātaka*, Vol. III. pp. 126–127, 267.
3. *Milinda*, Vol. II. p. 30.
4. *Indian Shipping*, p. 47, *Sārthavāha*, p. 147, *Studies in Indian History and Culture*, p. 159, L. J. Gopal, Art of ship–building and navigation in Ancient India, *J. I. H.*, 1962, p. 325.
5. *Jātaka*, Vol. IV, p 2.
6. Ibid., Vol. VI, p. 35.
7. Ibid., Vol. VI, p. 34.

having eaten to his full, smeared his two clean garments with oil and put them tightly round him and stood leaning against the mast. When vessel sank, the mast stood upright. Having determined the direction in which Mithilā lay, he flew up from the top of the mast, and by his great strength passing beyond the fishes and tortoises fell at the distance of 140 cubits from the ship.[1] This man was of extra-ordinary courage. He toiled for seven days without loosing confidence. The Goddess *Manimekhalā*, when she had tested his valour and found in him the true manliness, advanced her divine grace to save him. The conversation, which took place between him and the goddess Maṇimekhalā is worth quoting[2] for, it represents the true characterstics of an Indian navigator of those times. Thus, wheh the goddes asked the man :—

'What use in strivings such as these
Where barren toil is all the gain.
Where thare is no reward to win
And only death for all thy pain',

Then the man with great eloquence uttered :—

'He who thinks there is nought to win
and will not battle. While he may,
Be his the blame whatever the loss,
it was his faint heart that lost the day.
Men in this world devise their plans
and do their business as seems best,
The plans may prosper or may fail,
the unknown future shows the rest.
Seest thou not, goddess, here today
'tis our own actions which decide;
Drowned are the others,-I am saved,
and thou art standing by my side.
So I will ever do my best to fight
through ocean to the shore ;
While strength holds out I still will strive,
nor yield till I can strive no more'

1. *Jātaka*, Vol. VI. p. 36.
2. Ibid., Vol. VI. p. 36. (c) p. 23.

Sometimes, the victims of a ship-wreck by striving and toiling reached an isolated island, where they had to manage for their meals by killing birds etc. [1] In such cases, the sailors could return home only if they could find an other ship bound for their native place. But, sometimes accommodation was refused to them, if the men on the ship thought that they would bring ill luck to them.[2] In some places ship-wreck-people had to face the danger of goblins (probably man-eating pirates), who by entrapping them killed them. The route between India and Cylone was particularly haunted by such man-eating goblins. [3]

Mauryans brought maritime-activities under the state control. A superintendent of ships [4] (*nāvādhyakṣa*) was incharge of maritime-taxes and protected the coastal and sea-routes from the pirates. This officer was required to show 'fatherly kindness' to the weather-beaten ships and was instructed to grant partial or total exumption from custom to those, whose commodities were spoiled by water. [5]

We get some information about the hired pilots from the *Milinda-Pañho*. Such pilots were very faithful to their duty and had a knowledge of everything 'that was on the sea, whether good or bad.' They navigated the ships, day and night with continuous and unceasing zeal and effort. They always thought to serve their masters with earnestness. One such pilot is said to have thought 'I am a hirling and am working for my wage on board this ship. By means of this ship I get food and clothings. I must not be lazy but zealously navigate the ship.' [6]

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1. *Jātaka*, Vol. II, p. 112.
2. Ibid., Vol. II, p. 112.
3. Ibid., Vol. II, p. 112.
4. *Artha*, Vol. II, p. 28.
5. Ibid., II. 28, 10–12.
6. *Milinda*, Vol. II, p. 306.

CHAPTER VII

MEANS OF TRANSPORT

There are, broadly speaking, two main stages in the history of the means of transport, which may be described as the non-mechanical stage and the mechanical stage. Originally in the former stage, man [1] was his own beast of burden. This stage may be termed as 'hand or head carriage stage.' Later on, when (after 3200 B. C.) [2] the domestication of animal became common, the use of animal-power in transporting goods came in to vogue. The harnessing of animal as means of transport may be regarded as man's first effective essay in making natural forces work for him. [3] In India, which animal first served the man as the beast of burden, is not definitely known. Horse or mule does not seem to have been employed till 1500 B. C.[4] But, as the pre-Chalcolithic painted potsherds of Amri, Nundara and Kulli represent ox or bull, it has been suggested that the ox or bull was the earliest animal used for transport in India. [5]

So long as man was in the primitive barter stage, the transport of goods depended solely on man and the animal power. But with the development in trade, improvements in the means of transport became a necessity. To increase the efficiency and the carrying capacity of man and animal power, some

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1. C. H. Cole, considers women as man's oldest beast of burden. His suggestion rests on the ground that the male had to be unencumbered to protect his family. *History of Technology*, Vol. I. p. 704.
2. *Pre-historic baskground*, p. 26.
3. *Man makes himself*, p. 99.
4. *Harappa*, Vol. I. p. 6., *Mohenjodaro*, Vol. I. p. 28.
5. *Pre-historic India*, pp. 86, 95, 102–4, 121. At Rana Ghundai the remains of ass and horse (?) have been found. But these species are very rare. Ibid., p. 121.

mechanical devices were gradually introduced. Man's experience that he can move much heavier loads by pulling or dragging or by placing them upon a flat piece of board and drawn along, might have encouraged him to adopt some type of sledge like simple contrivance, drawn by man or some domesticated animal. Later on, to such simple contrivances, wheels were added. Similarly, man on the basis of experience, adopoted some stick or pole to distribute the weight of the load evenly over the body. [1]

The introduction of such mechanical devices was a matter of gradual development and people continued to use earlier modes of transporting goods because of the ease resulting from a longer use of the primitive modes. Thus, we see the use of stick or pole (known in India as *bahaṅgikā*) to distribute the load on the body in use upto second century B. C. (Pl. I. Fig. 6.).

Scholars believe that the first wheel moved on the land between Euphrates and Tigris, little before 3000 B. C. [2] In the Indus valley wheeled carts yoked with oxen were in use round about 2000 B. C. [3] Thus two-wheeled and four-wheeled vehicles were used both in Euphrates-Tigris valley and the Indus valley, but it is difficult to say where the wheel cart was originally invented. [4] There is no doubt that the two countries were exchanging their goods by trade, and hence they might have exchanged some amount of technological skill also. But the Harappan models of cart in pottery and bronze seem to be essentially Indian in origin They have influenced almost all the later models found at Shahi Tump, Mehi, Kulli and Chanhudaro. [5] The influenee of the Harappan carts on those from Baluchistan seems to be so visibly potent that it may be said that 'carts in Baluchistan can not be claimed as

1. *History of Technology*, pp. 704–5. But in India no example of sledge is known.
2. Ibid., p. 716.
3. *Man makes himself*, p. 101, *Harappa*, p. 6.
4. E. Mackay, *Chanhudaro Excavations*, p. 164.
5. *Pre-historic India*, p. 110.

necessarily an integral part of the local culture and most of them seem to be Harappan imports. [1]

The most important distinction between Harappan and Sumerian wheeled vehicles, suggestive of independent invention of wheeled vehicle in these two countries, is that the construction of the Sumerian wheeled vehicle suggests its military use, while clay models discovered at Harappan sites indicate their civilian utility,[2] (Pl. I. Figs. 1–4. Pl. II. Figs. 1–3, 6). No model representing a war-chariot or anything like it, has yet come to light from any of the Indus valley [3] sites. The carts of the Indus valley had their axles fixed with the wheels. The frame consisted of two curved beams set parallel to each other and joined by two to six cross-bars. The pole ran under the cross holes in each of the side-beams, which held upright the poles to contain the box of the vehicle, presumably of wicker work. A pair of holes at the centre of each side-beam held pegs projecting downwards and fitted on either side of the axles.' [4] The wheels of the Harappan carts, particularly of Chanhudaro were simpler in construction as compared to those of the Sumerian carts. They were made of three solid pieces of wood securaly fastened together, the projecting hub probably being one with the middle plank of the wheel. This was necessitated by the difficulty of procuring planks of sufficient width for the whole diameter of the wheel. They were, therefore joined together with tenons and lashings. [5]

It is thus clear that these carts were meant exclusively for civic and economic transport. A particular type of cart, of box like shape and apportioned across the middle, was very useful in transporting commodities and might have served the

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1. *Pre-historic India*, p. 110.
2. *Mohenjodaro*, Vol. III. Pls. CLIV. *Chanhudaro Excavations*, Pl. LVIII. Figs. 7, 8, 19, 22, 25. *Harappa*, II. Pl. CXX.
3. *Early Indus Civilisation*, p. 133. *Pre-historic India*, p. 273.
4. *History of Technology*, Vol. I. p. 717.
5. *Chanhudaro Excavations*, p. 162.

purpose of load-carriage (Pl. II, Fig. 6).[1] Another type of cart had a hole for the shaft piercing the frame longitudinally. (Pl. II, Fig. 3). [2]

That the animals drawing these carts were humped oxen is suggested by the large number of model oxen that were found with holes through their shoulders to take the ends of the yokes. (Pl. II, Fig. 8).[3] We do not find any positive evidence for the use of horses, [4] though the use of asses or mules for dragging vehicles has been suggested.[5] Some models of ram-carts indicate the use of rams also in the transport vehicles. (Pl. II, Fig. 3). [6] Besides, camels were also in use as beast of burden. [7]

Harappan carts had solid wheels. But, the Āryans introduced the use of spokes in the wheels. The device of spokes made carts light and speedy. The most common means of transport in the Vedic times was *ratha*.[8] But it was primarily for military use. For commercial transport there were *anas*[9] and '*śakaṭas*.[10] As in the case of Harappan carts, oxen were yoked to these carts. *Anaḍ-vāha* as a common expression for an ox shows that

1. *Chanhudaro Excavations*, Pl. LVIII, 29.
2. Ibid., p. 136. Pl. LVIII. 21.
3. Ibid. p. 165. Pl. LVIII, 7, 8 and 22, *Pre-historic India*, pp. 86, 87, 94, 102, 104, 106, 161.
4. *Mohenjodaro*, Vol. I. p. 28. *Harappa*, VI. I. p. 6. The bones of a horse occur at a high level at Mohenjodaro and from the earliest (doubtless pre-Harappan) layer of Rana Ghundai both horse and ass are recovered. *Indus Civilization*, p. 60.
5. *Chanhudaro Excavations*, p. 165. *Indus Civilization*, p. 60.
6. Three mutilated ram-chariots were found at Mohenjodaro. *Mohenjodaro*, Vol. III. Pl. LVIII, 11, 12, 15.
7. Ibid, Vol. I. p. 28. Vol. II. p. 660.
8. *R. V.* IV. 30. 16 VIII. 91–7. X 85. 10. X 86–18. X 102–6,
9. Ibid., IV. 30. 16. VIII. 91–7. X 85. 10. X 86. 18, ·X 102. 6 *A. V.* XII 1. 47, XIV. 1. 41 *Śat. Br.* 1.1.2.5. etc. *Chan. Up.*, VII. 15. 1., *Kau. Up.*, III. 8. etc.
   A. V. XII. 8.47, XIV. 1.41. *Śat. Bra.* 1.1.2.5. etc. *Chān. Upan.*, VII. 15. 1., *Kau. Upan.* III. 8. etc.
10. *Śakaṭa* and *śakaṭī* are rare words in the Vedic literature.

oxen were employed in drawing carts. [1] Oxen were called also *vāha*, [2] because they drew the carts. Sometimes horses were also yoked into these carts. [3] Female draught cattle (*anaduhī*) were also used for drawing the carts, but rarely. [4]

Details of the constructions of a *ratha* are described in various verses of the *Ṛgveda*. [5] But, we do not find any specific information on the constructional feature of *anas*. Probably, many features of a *ratha* were shared by *anas*. Some features of a *ratha*, necessary for military needs were replaced in the *anas* by those, useful for commercial transport. On the basis of the various parts and the constructional features of the *ratha* known to us from Vedic literature, [6] we may describe an *anas* as follows :—

Anas was made of *khadira* and *śiṃśapā* wood. [7] It had a wooden floor (perhaps longer than the wooden floor of a chariot), which was attached to the axle (*akṣa*) perhaps by leather straps (*raśunā*). Axle was free of the body of the vehicle on each side and carried the wheels (*cakra*) secured by lynch pin (*ani*) on the outer faces of the *nābhi* portion of the wheel. This axle was perhaps fixed to the middle of the body. The axle was joined with the yoke (*yuge*) by a pole (*īṣādaṇḍa*) in light carts, and by three bamboo-rods (*triveṇu*), in carts meant for heavy loads. It was fixed to the hole (*tadarman*) of the yoke. The yoke and the pole were further lashed by *yoktra*. The pole rose in curve from the bottom of the cart and went straight to meet the yoke almost horizontally.

1. *R. V*, IV. 30. 10., X. 86. 18. etc. *Śat. Brā.* 1.1. 2. 5. etc. *Chan. Upan.*, VII. 15. 1. *Kau. Upan.*, III. 8. etc. *Vedic Index*, Vol. II. p. 345.
2. *R. V.*, IV. 57. 4., *A. V.*, VI. 102. 8.
3. *Śat. Brā.*, V. 4. 35. *Vedic Index*, Vol. I. p. 42.
4. *Vedic Index*, Vol I. p. 21.
5. *R. V.*, III. 53. 17. *Vedic Index*, Vol. II. p. 201.
6. *Pre-historic India*, pp. 279–80. Fig. 32. P. K. Gode, *Poona Orientalist*, Vol. V. Nos. 2–3, p. 148.
7. Ibid., p. 148.

This system of yoking was specially suited for the oxen.[1] Oxen were kept in control by the use of long pins (*samyā*) fitted to the yoke and with long leather lashes (*raśmi* or *raśanā*).

In the early vedic period, the carts had two wheels, which had spokes (*ara*) fitted to the axle-holes (*kha*) of the naves (*nābhi*) of the wheels and in the felloes (*nemi* or *pradhi*). The felloes were made of one piece of wood and were bent in a circular form. The wheels were rimmed with metal tyre (*pavi*) for protecting them. About the superstructure of the carts we do not know much, but they might have been similar to those of the Harappan carts. (Pl. II, Figs. 1–2).

Śakaṭa is a rare word in the Vedic literature,[2] but finds frequent reference in the post-Vedic works, which signifies the growing importance of the *śakaṭa* for the day to day civic and economic transport.[3] We get references to carts loaded with gold,[4] meat,[5] wood[6] and arrows.[7] Throughout the *Ṛgveda* and

1. *Pre-historic India*, p. 278. Fig. 32.
2. *Vedic Index*, Vol. II, P. 345.
3. *Vinaya*., Vol. IV. p. 201 ; The word *yāna* is employed to denote all means of transport (*yāti yānena*). Broadly speaking, the *yāna* include all vehicles and conveyances for carrying men, animals and goods and the auxiliary means thereof. In other words, the sense of *yāna* is not complete without that of *vāhana*. According to Baudhāyana the word *yānada* suggests a donor of elephant, horse, chariot, etc. *Sārattha Pakāsanī*, (Siamese edition pp. 100–101) included even the road leveller into the word *yāna*. Even shoes and sandles are classed under *yāna*, therefore, sometimes shoe-makers also were classed with *rathakaras*. G. P. Majumdar, *Some Aspects of Indian Civilisation*, p. 127. In the *Milinda*, *yānas* are trained elephants, riding horses, a bullock cart, water vehicles and the vehicles of goods etc, *Milinda* Vol. II. p. 276.
4. *Vinaya*, *Mahāvagga*, (N) p. 204. But in the *Vinaya* (O) the text is *raṇṇam* instead of *hiraṇya*, p. 185.
5. *Jātaka*, Vol. II. p. 49.
6. Ibid., Vol. II. p. 240.
7. C. V. Vaidya, *Mahabhārata eka Upsaṅghāra*, p. 143.

subsequent Vedic works we find waggons being used only for bringing harvest from the field. [1] Later on, the use of *śakaṭa* in commercial transport becomes fully evident from the Buddhist literature, [2] particularly from the *Jātaka* stories,[3] which abound with references to merchants travelling from east to west with 'five hundred waggon-loads.' Such waggon-loads collectively constituted a type of caravan known as *śakaṭa-sārtha*. [4]

There were several types of carts, often known after the specific goods they carried. According to Pāṇini, a cart is to be specified according to the material of the load. [5] Thus, he mentions *ikṣuvāhana*, *śaravāhana* and *darbhavāhana*. [6] Kauṭilya refers to three different types of carts *laghuyāna* (small carts) *goliṅga* (a cart of middle size drawn by bulls) and *śakaṭa* a big cart). [7]Samasastri explains *laghuyāna* as a small cart, [8] but the connotation of the word *yāna* is not certain. We may explain *laghuyāna* as a form of palanquine used as a light and small type of conveyance. *Golinga* may be taken as to be a type of bullock cart. It is, however, difficult to distinguish between the structural features of a *golinga* and a *śakaṭa* on the basis of the texts. But, according to Bhaṭṭaswāmin, they could be distinguished by their respective speeds. [9] It seems that *goliṅga* was a cart in which only oxen were yoked, whereas a *śakaṭa* could have other animals also yoked to it. Kauṭilya [10] prescribes the collection of only 6 *māṣas* from *goliṅga* but 7 *māṣas* from

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1. *Some Aspects of Indian Civilization*, p. 134.
2. *Dīgha Nikāya*, 2. 110. 234, *Vinaya*, Vol. III. p. 116. *Milinda*, p. 238. *Sutta Nipata*, Verses, 58. 137.
3. *Jātaka*, Vol. I. p. 98. 368. Vol. I. p. 192. II. p. 296. Vol. III. p. 502. V I. IV. p. 207-8, 458. Vol. V. p. 471.
4. *Mahābhāṣya*, III. 2. 115. II. 120. *Jātaka*, Vol. I. p. 194.
5. वाहनमाहितात *Aṣṭādhyāyī*, VIII. 4. 8.
6. *Indian as Known to Pāṇini*, p. 148.
7. *Artha*, II. 46, 30, 31, 32 and also Ibid., (S) p. 141.
8. Ibid., (S) p. 141. fn. 3.
9. Ibid., (S) p. 141. fn. 3, 4.
10. Ibid., II. 28, 31. II.·28. 32.

śakaṭa as ferry tax. This would suggest that the structure and capacity of *śakaṭa* was bigger than that of a *goliṅga*.

About the structural features of a *śakaṭa*, the post-Vedic literature is silent except for the description of a few parts of *śakaṭa* here and there. [1]

Fortunately for us, the art forms from second century B. C. to second century A.D. present some examples of ancient Indian carts. There representations are very useful for the structural study of the carts. (Pl. I. Figs. 5, 7, Pl. II, Figs. 7, 8, Pl. III, Figs. 1-6). The bas-relief of Jetavana monastary depicted in the Bharhut sculpture shows a cart [2] (Pl. I, Fig. 7) being unloaded by the men of Anāthapiṇḍika. This cart is essentially a loading cart, therefore, it has a very simple superstructure. It is a cart of two *īṣādaṇḍas* with probably a wooden floor. Both the *īṣādaṇḍas* join the yoke (*yuga*) and are tied with what appears to be a leather (*yugabandha*). The yoke shows *śamyā* (two inner and two outer) inserted in the yoke. A portion of *īṣādaṇḍas*, technically known as *prāgu* is very elaborate. The wheel is not solid and has sixteen spokes (*ara*) properly inserted in the axle-hole (*kha*) of the felloe (*nemi*). It is not clear if the *pavis* were reinforced by iron bands. The nave of the cart is very prominent as the inserted exle (*akṣa*) is also visible. The lynch-pin (*aṇi*) is not visible, but it must have been essential to keep the moving wheel (*cakra*) attached to the axle. In this representation of a cart the seat of the driver is not visible. But another cart shown in another piece sculpture from Bharhut nearly of the same period, shows the seat of the driver very clearly (Pl. II, Fig. 7). It has two wheels with sixteen spokes. It has also straight wooden sides and a strong wooden back. There is also a roof placed on the ground beside the cart. From the shape of the roof it appears that the cart was of square shape. [3]

To keep the front portion of the cart raised from the ground, pendent rods were necessary An example of such a pendent

1. *Milinda*, Vol. I. p. 230. *Dīgha Nikāya*, Vol. II. p. 234.
2. A Cunningham, *Bharhut*, Pl. XXVIII, B. M. Barua, *Barhut*, Fig. 45.
3. *Bharhut*, p. 128. Pl. XXXIV. Fig. 1. *Bharhuta*. Fig. 46.

rod can be seen on Antiquity No. B. 22. of Lucknow Museum representing a cart.[1] Roof of carts in the specimens from Goli [2] (Pl. III, Fig. 4) and Mathurā [3] (Pl. III, Fig. 5) show that passenger carts were generally covered. The cart from Goli shows a barrel roof ; the covering of the Mathurā cart appears to be slightly sloping and is supported on four upright posts. [4] But, such carts were of little importance for commercial transport. The passenger-carts, which were without a covering, had on the two sides railings[5] (Pl. III, Figs. 1, 3, 6).

The *sakaṭas* were generally drawn by two oxen, (Pl. I, Fig. 7. Pl, II Figs. 4, 7, 8, Pl. III, 4-5) [6] but sometimes cows were also yoked. [7] The *Mahāvagga* informs us about six *bhikkhus*, who yoked a cow along with two oxen in a cart. According to Pāṇini, the oxen suitable for cart were called *śākaṭa*. [8] There were some bulls, who could be yoked on both sides alternatively. They were called *sarvadhurīṇa*. [9] As against the *sarvadhurīṇa* oxen, there were oxen of the *ekadhurīṇa* [10] type. The word *prastha* rafers to a leader ox, who is yoked infront of the cart along with other oxen. [11] Generally, young horses and calves were not considered fit for yoking. [12] Similarly, old oxen were regarded as useless. Oxen having extraordinary strength were made to pull more than one *śakaṭa* at a time, [13] and their hire-charges were naturally high. [14] On

1. The antiquity is not published.
2. Ramchandran, *Stupa of Goli*, Pl. 5.
3. V. A. Smith, *Jain Stupa and Other Antiquities of Mathura*, Pl. 5.
4. Ibid., Pl. XV.
5. Ibid., Pl. III. Fig. 1.
6. *Buddhist India*, p. 61.
7. *Vinaya*, Vol. I. p. 191.
8 *Aṣṭādhyāyī*, IV. 4, 80.
9. Ibid., IV. 4, 78.
10. *India as known to Pāṇini*, p. 153.
11. *Aṣṭādhyāyī*, VIII. 3. 92. *India as Known to Pāṇini*, p. 153.
12. *Rāmāyana*, VI. 131. 2.
13. *Vinaya*, Vol. IV. p. 5. *Jātaka*, Vol. I. pp. 191-193.
14. *Jātaka*, Vol. I. pp. 192-93. pp. 195-96.

the rough roads, sometimes, several oxen were used to drag a single cart. [1] The diet of an average ox fit for yoking is given in the *Arthaśāstra*.[2] Yoked oxen were given kindered treatment. In a Gandhar sculpture two cartmen are shown massaging one of the yoked oxen. (Pl. III, Fig. 5). [3]

Several kinds of chariots were in use in ancient India, which were named after the draught animal yoked to them. [4] Patañjali refers to chariots drawn by horses (*asvaratha*), by camels (*uṣṭraratha*) and by asses (*gardabharatha*). [5] The *Mahāniddesa* mentions six kinds of *yānas* (animal vehicles) : elephant carts (*hatthīyānam*), horse carts (*assayānam*), bullock carts (*goyānam*), goat carts (*ajayānam*), ram carts (*meṇḍakayānam*), camel carts (*oṭṭhayānam*) and donkey carts (*kharayānam*). [6] *Mahābharata* refers to vehicle drawn by donkeys.[7] In a Gandhara sculpture, we find a ram yoked to a *śakaṭa*. (Pl. III, Fig. 1).[8] It is fair to expect that the size of wheels and other parts of the *rathas* varied according to the animal yoked to them. [9]

In the *Aṅgavijjā* such beasts of burden are included in the *sajjaiva jāṇajoni* class. [10] The main animals of this class are horses, elephants, camels, cows, buffalos, asses, etc. [11] *Sihacamma Jātaka* narrate the story of a hawker, who went for hawking often loading his commodities on donkeys. He was a very cunning hawker and some time let loose his donkeys in the barley fields on the road side so that they might feed

1. *Jātaka*, Vol. I. pp. 194–195.
2. *Artha*, II. 29, 45.
3. *A. S. I. A. R.*, 1907. Pl. XLV. a.
4. *India as known to Pāṇini*, p. 148.
5. Ibid , p. 148. B. N. Puri, *India in the Time of Patañjali*, p. 140. *Mahābhāṣya*, IV. 3. 120. II. 318.
6. Ibid., Vol. I. p. 145.
7. *Mbh.*, Ādi. 132. 7.
8. C. M. Kar. *Classical Indian Sculpture*, Fig. 49.
9. *India as known to Pāṇini*, pp. 148–49.
10. *Aṅgavijjā*, p. p. 166.
11. *Jātaka*, Vol. II. p. 110.

themselves. [1] Similarly, we know about a potter of Vārāṇasī, who employed a donkey for transporting his pottery-goods from Vārānasī to Takṣaśilā.[2] Ox, bull camels etc. were employed for carrying passengers also. Pāṇini refers to such bull-riders (*gosūda, gosūdin*) along with camel-riders (*uṣṭrasādī*). [3] Camels were useful on desert-roads known as *marukāntāra* and *jaṇṇupatha*.[4] Similarly, the terms *ajapatha* and *meṇḍhapatha* imply that on such routes only goats and rams could be used for transporting commodities. [5] They were perhaps good for hilly tracks. It is interesting to note that in the Uttara Kuru [6] region even human beings were employed for transporting goods. *Vinaya piṭaka* informs us that a certain monk carried sheep's wool for three *yojanas*. He carried it on his back in a bundle made of his upper grament. [7] Man power is also referred to in the *Rāmāyaṇa* [8] and the *Arthaśāstra*. [9] Goli represents a cart drawn by two men. (Pl. IV. Fig. 2). Man power was so important in transporting goods that the *Aṅgavijjā* has included man (*nara*) as also a type of *sajjīvajāṇa*.[10] Sometimes, simple contrivances also were used by men for transporting goods. On the eastern gate of Sanchi we see a man depicted as carrying on two loads on his shoulder suspended on a bamboo stick. Load-baskets were hung at both the ends of the bamboo like *sikya*, formed by pending nets on the two ends of a strong pole. Rings of a hard material, like wood or metal, were provided in each ends of the pole, on which rested the pitcher. [11] (Pl. I. Fig. 6). Sometimes, instead of putting

1. *Jātaka.*, Vol. III. p. 278.
2. *Dhammapada Aṭṭakathā* (H. O. S.), p. 224.
3. *India as known to Pāṇini*, p. 153.
4. *Mahāniddesa*, p. 155.
5. Ibid., p. 155.
6. *Digha Nikāya*, Vol. III. p. 200.
7. *Vinaya*, Vol. III. p 233.
8. *Rāmāyaṇa*, I. 67. 4.
9. *Artha*, II. 19. 20.
10. *Aṅgavijjā*, p. 166.
11. J. Marshall, *Monument of Sanchi*, Pl. LII, lowest panel; *Barhut*, Fig. 95; *Bharhut*, Pl XLIV. 4. *Goli*, Pl. 6 g.

the loads into the baskets, they were tied and suspended to the poles. In a Goli sculpture, while representing *Ṣaḍdanta Jātaka*, a man is shown carrying tusks suspended from two ends of a pole on his right shoulder just like a *vahangikā*. [1] Heavy loads were carried by two persons with strong pole on their shoulder, in a basket suspended in the middle. [2]

The earliest means of water-transport must have been floating pieces of wood or logs lashed together. [3] Subsequently, oars, paddles and poles were added to the simple rafts, which enabled them to move faster with the stream, to cross it for reaching the opposite bank and to sail against the stream.

A later development was the use of inflated animal skins sewn in such a way that air could be blown into them. But the most important improvement over the rafts was the use of canoes. When people found logs of raft uncomfortable and heavy, they hollowed out the central portion of the tree trunk from one side to provide a more comfortable means of transport. The hollowing was done either by stone-tools or by burning the logs. This advancement was made probably during the neolithic or early chalcolithic period. In the Indus Valley culture we find boats and ships of a much more improved design than the primitive hollowed logs.[4] E. Mackay observes that boat-building must also be included among the crafts of a people whose chief-interest was trade and who had in Mohenjodaro, a prosperous city close to a large navigable river. [5] There are two representations of boats from Mohenjodaro [6] (Pl. V Fig. 1. 2.). One, which is on a pottery piece, besides the figure of a steersman shows, both the ends high and a mast in the centre apparently with two yards. This type of boat or ship was not only suitable for river-traffic but for the sea-voyage also. The other representation is of a

1. *Goli*, Pl. I. c
2. *Barhut*, Fig. 137.
3. *Aiyavijjā*, p. 193.
4. The practice continued later also. *Jātaka*, Vol. II., p. 18
5. *Early Indus Civilization*, p. 133.
6. Ibid. PL. XVII. 14.

simple boat engraved upon a seal-amulet. It has no mast. It shows a sharp upturned prow and stern, a cabin in the middle and a steersman seated at the stern. Mackay points out that 'certain markings on the hull of the vessel suggest that it was made of reeds bound together, a method of ship-building which was used for quite large boats in Ancient Egypt.'[1] This was exclusively used for river-traffic.

Five tarracotta-models of boats have been found from Lothal. Some paintings on pot-sherds also give an idea about the boats of the Harappan period. A complete model shows that it was with a sail. S. R. Rao describes the model and says that 'it has a sharp keel, a pointed prow, and a blunt stern.'[2] Probably, both the stern and the prow were curved as in case of Egyptian boats of the Gerzean period (before 3100 B. C.). The second type of boats was without any sail...... A painting on a sherd may be interpreted as depicting a boat having atleast 36 pairs of oars [3]

The *Rgveda* abounds with references to raft and boats for crossing rivers. [4] *Nāva* was most commonly used term for boat as well as for ship. The *nau* was in the majority of cases, merely a boat in use for crossing the broad rivers and were simple in their construction, plyable only by oars (*aritra*). [5]

1. *Early Indus Civilization*, p. 133, L. J. Gopal points out that iron nails were not used in stiching the planks even later times. Even in the *Yuktikalpataru* of Bhoja it has been advised that the planks of a sea going vessel should be sewn with ropes and that no iron nails should be used, for the iron will be influenced by the magnetic rocks in the sea. 'Ship Building and Navigation in Ancient India,' *J. I. H.* 1962. pp. 314–315.
2. S. K. Rao, 'Shipping and Maritime Trade of the Indus People,' *Expedition*, Vol. 7, No. 3, 1963. pp. 35–36.
3. Ibid., Vol. 7, No. 3, 1963, p. 36.
4. आ नो नावा मतीनां यातं पाराय गन्तवे *R. V.*, I. 46, 7. *Nāva* occurs also in *R. V.*, I. 97. 7, I. 99, 7, I. 131. 2, I. 140. 12, II. 42, 1. V. 4, 9, V. 59. 2, VI. 68. 8., VII. 65. 3. VIII 25, 11. VIII. 64. 9. X. 44. 6. X. 108. 9. etc.
5. *Vedic Index*, Vol. II. p. 432 ; *Vedic Age* pp. 396–397.

Besides simple river-boats, the Āryans also had constructed large boats[1] of extraordinary capacity and plyable only by a hundred oars (*śatāritra*). [2] Such large boats, certainly were ships, fit for maritime traffic and were constructionally different than ordinary river-boats. Similarly, another word *plava* in the *Ṛgveda* has been used to denote a ship of complicated construction. [3]

In the post-Vedic period also *nāva* [4] was generally applied for means of water-transport and the distinction between a river-boat and an ocean-going vessel was made only by using the terms like *nāva* and *mahānāva*, [5] respectively.

A rough idea of size and capacity of big ships can be had from the number of the passengers they carried. Thus sometimes, they were big enough to hold five to seven hundred passengers. [6] The *Samudda Vāṇija Jātaka* speaks of a ship, which could accomodate one thousand families [7] of carpenters. Some ships were so constructed that they had suitable compartments for goods as well as passengers (in one case they were three hundred in number). [8]

One *Jātaka* mentions some parts of a *māhānāva*, on the basis of which we can have an idea of the construction of a ship. Thus, a *māhānāva* was made of planks (*padarāṇi*), which were fastened together, most probably by ropes (*yottāni*). A ship generally had one mast (*kūpaka*); but sometimes they had two

1. In *R. V.* I. 46. 8. a *nāva* is mentioned as large as sky. (दिवस्पृशु).
2. Ibid., I. 116. 5. mentions a *nāva* of a hundred oars.
3. Ibid., I. 182. 5.
4. *Jātaka*, Vol. I. p. 239, Vol. II. p. 112, Vol. III. pp. 126, 128 Vol. IV pp. 2–21 Vol. V. pp. 75, 433 Vol. VI. p. 160. *Buddhist India*, p. 60.
5. *Jātaka*, Vol. I. p. 121. Another name for *māhānāva* was *pota*.
6. *Indian Shipping*, pp. 28–30; *J. I. H.* 1962, pp. 320–321, *Studies in Indian History and Culture* p. 158.
7. *Jātaka*, Vol. IV. p. 159.
8. Ibid., Vol. VI p. 34.

or three.[1] The use of anchors (*lakaro or lankaro*) is also referred to.[2] In Arrian's *Anabasis* there is a mention of thirty-oared galleys, which were supplied to Alexander by the Kathoi, a tribe of the Punjab.[3]

Such big ships were managed by more than one pilot. From the *Avadāna Śataka* we know that big ships were managed by pilots of five grades.[4] The text, however, names only four i.e. *ahara, nāvika, kaivarta* and *karṇadhāra*. They probably worked under the guidence of a *jalāniryāmaka* or a *jeṭṭhaka*.[5] The *Arthaśāstra* also mentions five types of crews—*śāsaka* (captain), *niyāmaka* (steersman), *dātragrāhaka* (holder of sickle), *raśmi grāhaka* (holder of ropes) and *utsecaka* (servent to pour out water),[6] who piled a ship (*mahānāva*). The sailors seem to have been organised into associations with their respective group leaders.[7] The leadership appears to have been heriditary and the sons of navigators were trained to follow in the foot-steps of their fathers. Suppāraka-Kumāra, in his young age became quite furnished with the knowledge of nautical science and certainly it was due to the inspiration and effort of his father that he became a successful navigator.[8]

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1. *Jātaka*, Vol. II. p. 112., Vol. IV. p. 21.
2. Ibid., Vol. VI. p. 112.
3. *Ancient India and its Invasion by Alexander*, p. 156.
4. *Avadānaśataka*. p. 90. On the basis of the Tibetan version of the *Avadāna Śataka*, Feer has translated the classes of pilots as pumpmakers, oarsman, fisherman, lookoutmen, and pilot. But. N. K. Sastri opines that *ahara* is never a pumpmaker. He further says that the text cited gives only the class of workmen, who made up the crew, but does not give the strength of the crew. N. K. Sastri, *Gleanings of Social Life from the Avadāna*, p. 20.
5. *Jātaka*, Vol. I. p. 108; Vol. IV. p. 137.
6. *Artha*. II. 28. 16
7. *Jātaka*, Vol. IV. pp. 87, 137. *Jātakamālā*, p. 88.•*J. I. H.*, 1962, p. 327.
8. *Jātaka*, Vol. IV. p. 87.

Several big ships, constituted a *nāvasārtha*. [1] Big ships and boats were also organised and owned by states. Mauryans were maintaining state owned ships to be utilised by the traders as well as passengers on hire. According to Megasthenes, ship-builders were salaried servents of the Mauryan Government, who supplied ships on hire to merchants. [2]

The *Mahāvagga* enumerates three types of river-boats—*nāva*, *ulumpa* and kulla. [3] Constructional distinction between the three types of boats cannot be ascertained from the *Mahāvagga*. But *ulumpa* of the *Mahāvagga* may be the *ulumpa* of the *Aṣṭādhyāyī*, which according to V.S. Agrawala was a small boat, shaped like the half moon[4] (*dongī*). Other types of water-transport mentioned in the *Aṣṭādhyāyī* are *utsaṅga* (a kind of small dug-out float), *utpata* (probably a longish fishing boat and *piṭaka* (a basket like coracle made of weeds and rushes covered with leather) and *bhastrā* (inflated skins). A *Jātaka* refers to some carpenters bringing beams and planks from a forest by binding together and by floating them down the streams of a rivers [5]

In the *Rāmāyana* we get some references to people crossing the rivers·by boats. [6] The *Mahābhārata* recognises boats as the only means for crossing the water. [7] *Vāhana*, [8] *karṇa* [9] and *sphya* [10] were some of the important parts of big boats. The big ships or boats had enough space to carry even hundred *kaivartas* [11] They were also useful for the loading of goods. [12]

1. *Jātaka*, Vol. II. p. 112.
2. *Artha*., II. 28., *Ancient India as Described in Classical Literature*, p. 53. *Studies in Indian History and Culture*, p. 151.
3. *Vinaya*, Vol. I. p. 320.
4. *India as known to Pāṇini*, p. 156.
5. *Jātaka*, Vol. II., p. 18.
6. *Rāmāyaṇa*, I. 45, 6, II. 52. 6. etc.
7. *Mbh*. Uddyoga, 35, 65.
8. *Rāmāyaṇa*. VI. 48. 26; II. 89. 11.
9. Ibid. II. 52. 6; VI. 48. 26; II. 52. 6; II. 52–81.
10. Ibid. II. 89. 11; N. R. Vyas. *Rāmāyaṇa Kālīna Samāja* p. 250.
11. *Rāmāyaṇa*. II. 84. 8.
12. *Rāmāyaṇa Kālīna Samāja*, p. 249.

The *swastika* type of big boat was good for river-traffic. [1] The *Rāmāyaṇa* also refers to ships (the term used is *nāva*) going in the sea, loaded with heavy cargo and a large number of traders (*sārtha*). [2] The *Mahābhārata* refers to a kind of boat in which a machine (*yantra*) was fitted. Pāṇḍavas fled from Lākṣāgṛha safely by taking a *sayantra* type of *nāva*.[3] This was probably an extra-ordinary device, which had little use in commercial transport. Sometimes, big ships had also a small boat attached to them [4] for unloading goods or passengers from the big ships, which due to their heaviness were unable to make safe approach to the coast or river banks, especially where the embankment was rough. In the *Mahābhārata* the big ships are named as *plava*. [5]

Besides boats and ships, animals such as horses [6] and elephants, [7] were also usefully employed for crossing rivers.

All means of water transport were put under state control during the Mauryan rule. The *nāvādhyaksha* (the superintendent of royal navy) had to look after the boats owned by the state (*rājanauh*)[8] and stationed at different *tīrthas* for the use of passengers, traders and pearl-fishers. Passengers had to pay a kind of ferry charge (*yātrāvetanam* [9]) to the superintendent of the navy. He controlled the condition of fording by men and levied taxes from those crossing a river in their own boats. [10] In the case of private boats, the ferry charges must have been comparatively low.

Kauṭilya's scheme of taxation on water-transport indicates the types of boats used in his times. Thus, we see that there

1. *Rāmāyaṇa*, II. 89. 11.
2. गुरुभार समाक्रान्ता नौ ससार्थेन सागरे Ibid., IV. 16. 24.
3. *Mbh.*, Ādi, 140. 5. 148. 5. etc.
4. As inferred from नावि नौरिव संयता *Mbh.*, Sabhā, 55. 2.
5. *Mbh.*, Droṇa, 22. 8.
6. *Rāmāyaṇa*, II. 71. 14. 2.
7. Ibid., II. 71. 15.
8. *Artha.*, II. 28. 5.
9. Ibid., II. 28. 5.
10. Ibid., II. 28. 7.

were ships useful for meritime trade (*samudrasanyānapātra* [1]), boats for general use (*naukā*),[2] large boats (*mahānāva*)[3] for large rivers, which could not be forded even during the winter and summer seasons, and small boats (*kṣudraka* [4]) for small rivers, which over flow during only rainy seasons.

According to the *Periplus* in the gulf of Bharukaccha there were some pilot boats known as *trappaga* and *cotymba* to guide the foreign ships coming to Bharukaccha through the enterance of the river, on which the emporium of Bharukaccha or Barygaza was stood.[5] *Trappaga* was a large type of fishing boat and *cotymba* may be the modern *kotia* type of boat. [6] The *Aṅgavijjā* also refers to *koṭṭimba* and *tappaga* as two types of boats (*jalacarayāna*). [7] On the eastern coast of the Cola kingdom, there were as many as three types of rafts and ships. Of these, one was of a very simple construction 'made perhaps hollowed logs, with planks, sides and outriggers' [8] This was a light boat for coastal traffic. [9] In the Pāṇḍyan kingdom, as Pliny informs us, pepper was carried down to Bacare in boats hollowed out of a single tree. [10] The *sangara* type of raft was of a more complicated structure and would seem to have been used merely for coastal traffic. It has been described as 'very large, made of single logs bound together.' [11] In the

1. *Artha*, II. 28. 1.
2. Ibid., II. 28. 3.
3. Ibid., II. 28. 16.
4. Ibid., II. 28. 17.
5. *Periplus*, 44.
6. Ibid., p. 181.
7. *Aṅgavijjā* p. 166.
8. *Periplus*, p. 243; N. K. Sastri, *Colas*, Vol. I. p. 85.
9. Ibid., Vol. I. 60.
10. *Pliny* VI. 26.
11. *Periplus*, 60. Schoff says that *sangara* was probably made of two such canoes joined together by a deck-platform admitting of a fair sized deck-house. Ibid., p. 243. For more information about *sangara*, see *J. A. S. B.*, January, 1847, pp. 1-78. See also *Aṅgavijjā*, introduction by Motichandra, p. 49.

Aṅgavijjā, *saṁghāḍa* or *sangara* is described as a middle size boat (*majjhima kāya*).[1] The third type included ocean-going vessels, which particularly suited to the voyages to 'Charyse and to the Ganges.' [2] Such vessels were named as *colandia*.[3]

The *Aṅgavijjā* provides intresting details about the means of water-transport used in ancient India. According to their sizes the author has divided them into four categories, which include thirteen types of *ṇijjīvajalacarāṇi*. [4] Of these the most commodious (*mahāvakāsa*) were the *nāva* and the *pota*. Middle sized boats (*majjhima kāya*) included *koṭṭimba*, *sālikā* (ship with cabin), *sanghāḍa* (made of single log), *plava* (big ship), *tappaka* (may be identified with *trappaga* of the *Periplus*). The third type of vessels, which was smaller than the above mentioned *mājjhima kāya* vessels included boats known as *kaṭṭha* or *kaṇḍa* (made of rushes) and *velu* (made of bamboos. The smallest types were *kumbha* (a float made of pitchers.), *tumba* (a float made from dried gourds), and *dati* (a float of bloated skins).[5] This category may also include *piṇḍikā* (a round boat made of cane). *Aṅgavijjā* describes them as *pañcavara kāya* class of *ṇijjīva jalacarāṇi*. [6]

From other Jain sources we know that besides *nāvā*, which was common type of water-transport, there were the '*agaṭṭhiyā*, *antaraṇḍakagoliya* (conoes), *koñcavīraga* and boats having the shape of an elephant's trunk and leather bags (*daiya*) and goat skin" [7] were also used as floats.

1. *Aṅgavijjā*, p. 166.
2. *Periplus*, 60.
3. *Colas*, Vol. I. p. 86.
4. तत्थ णिज्जीवाणि जल चराणि-णावापोतो कोट्टिम्बो सालिक्त तप्पेका प्लवो पिंडिका कंडे वेलु तुंबो कुंभो दती चेति । But this omits *Sanghāḍo*. *Aṅgavijjā*, p. 166.
5. Ibid., p. 166. *Datī* is *bhastra* of *Aṣṭādhyāyī* V. S. Agrawal's Introduction.
6. *Aṅgavijjā* p. 74.
7. J. C. Jain. *Life in Ancient India as depicted in the Jain Canons*, p. 118.

To corroborate the literary evidence, we have some direct evidence in Indian art and on coins. Such representations of ancient Indian ships and boats, not only substantiate the evidence in the literature, but provide us with details about their construction. Thus, a sculpture from Bharhut presents a big boat (Pl. VI Fig. 3) made of strong planks joined with wooden dowels. This large boat was rowed by four big oars (two on each side), of which only two are visible.[1] One of the sculptures on the eastern gateway of Stupa No. 1. at *Sanchi* presents a canoe made of rough planks rudly sewn together by hemp or string. It is being rowed with the help of a pair of oars and a rudder[2] (Pl. VI Fig. 2). Besides, on the western gateway of the same stupa, there is a representation of a royal barge and five men floating about holding on spars and inflated skins.[3] (Pl. IV Fig. 1) It is a very faithful representation of *bhastrā* or *dati*. A canoe shaped boat carved out of a log of wood is seen on one Bodhgayā sculpture. It could accommodate at least three persons. When in shallow waters, such boats were propelled with a pole[4] (Pl. V Fig. 7). The Amarāvatī representation of a boat[5] (Pl. VI Fig. 1) is similar in construction to the boats reproduced at Sanchi and Bharhut.

It is however, curious, that the boats and ships on Sanchi, Bharhut and Amarāvatī sculptures do not show the sails and the masts. But the coins of the Āndhras show that ancient Indian ships and big boats had generally two masts. (Pl. V Figs. 3–6). Alexander Rea[6] describes the coins and says that 'the obverse of the first (Pl. V Fig. 3) shows a ship representing the Indian *dhoni*, with the bow to the right. The vessel is pointed in vertical section at each end. On the point of the stem is a round ball. The rudder, in the shape of a post with spoon on end, projects below. The deck is straight, and on it are two round objects

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1. *Bharhut*, Pl. XXXIV. Fig. 2. *Barhut*, Pl. LX. Fig. 85.
2. *Sanchi*, Pl. LI.
3. Ibid. Pl. LXV. Maisey, *Sanchi and its Remains* Pl. XXI. Fig. 2.
4. B. M. Barua, *Gaya and Bodhgaya*, Fig. 59.
5. Fargussion, *Tree and Serpent Worship*, Pl. LXVII.
6. *A. S. I. R.* (New imperial series), Vol. XV., p. 29.

from which rise two masts, each with a cross tree at the top. Traces of rigging can be faintly seen. The obverse of the second (Pl. V Fig. 4) shows a ship to the right. The device on the second resembles that of the first, but the features are not quite distinct. The deck in the specimen is curved. The obverse of the third (Pl.V Fig 6) represents a device similar to the preceding, showing the features even more distinctly than the first. The rigging is crossed between the masts. On the right of the vessel appear three balls, and under the side two spoon shaped oars.' [1] A lead coin of the Āndhras also represents a two masted ship on its obverse. [2] (Pl. V. Fig. 5).

1. *A. S. I. R.* Vol. XV. p. 29.
2. *Indian Shipping*, p. 51.

CHAPTER VIII

MEDIUM OF EXCHANGE

The history of money and currency [1] in ancient India is still obscure and controversial. Among the Indus people, though a system of weight was evolved, no system of coinage seem to have came into being. [2] During the Vedic age, there appears to have existed a system of non-metallic money for exchange of goods. [3] Thus, a sage of Ṛgvedic times is seen offering an image of Indra in exchange for ten cows. Another sage of the same period is seen refusing to sell the image of Indra even for a hundred or a thousand or a ten thousand cows. [4] The use of non-metallic money continued to exist later also. Thus, a *Jātaka* story refers to an instance of rice being used as money. [5]

Niṣka and *hiraṇyapiṇḍa*, perhaps were two types of metallic money prevalent in the Vedic India.[6] But it is difficult to

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1. 'Money and coin are not interchangable terms' says George Macdonald. He explains money as medium of exchange of any sort. According to him, currency is a metallic medium of exchange issued by some competent authority, bearing types and symbols to show their recognition and guarantee the weight and the quality of the metal-content. George Macdonald, *Coin Types*, pp. 1–2.
2. *J. N. S. I.*, Vol. XV, p 14; *J. R. A. S.*, 1937, pp. 6–25.
3. S. C. Chakrabortty, *Currency Problems in Ancient India*, p. 5.
4. क इमं दशभिर्ममेन्द्रं क्रीणाति धेनुभिः *R. V.* IV, 24. 10.

   In this passage the cow is not referred to as in the context of barter, but as non-metallic money. Similar is the case in the following hymn :

   महे चन त्वामद्रिवः परा शुल्काय देयाम् ।
   न सहस्राय ना युताय वज्रिवो न शताय शतामघ ॥ *R. V.* VIII. 1. 5.
5. *Jātaka*, Vol. VI. p. 519; *Cambridge History of India*, Vol. I. p. 217.
6. *Vedic Index*, Vol. I. pp. 454–455.

ascertain their exact nature and significance, because they have never been mentioned in the Vedic literature in the context of commercial exchange.[1] Some scholars believe that they were not coins at all, but merely ornaments.[2] D. R. Bhandarkar, however, opines that during the Vedic age the *niṣka* was the name of a coin current in the country.[3] According to A. S. Altekar, though *niṣka* was some what distinct from the general type of ornaments mentioned in the *Ṛgveda*, it should not be taken to mean a standard coin of definite shape and value.[4]

In one verse of the *Ṛgveda*, the god Rudra is described as wearing a *niṣka*, which was *viśvarūpa*.[5] On the basis of the word *viśvarūpa*, Bhandarkar opines that *niṣka* was a coin and not merely a type of metallic currency.[6] He has accepted the term *rūpa* or *viśvarūpa* as technical words denoting the symbol or figure on a coin.[7] He is of the opinion that the use of *rūpa* as a technical term for coin continued even later. Thus, he points that a *sūtra*[8] of Pāṇini explains that 'the affix *yā* comes in the sense of *matup*, after the word *rūpa*, when *āhata* (stamping) or *praśaṁsā* (praise) is denoted. Thus, *rūpyo* (*gauh*) means *praśastaṁ rūpa* = *asya* = *āsti* i. e. one with a praisworthy form '[9] *Kāśikā* explains the word *rūpa* in the context of *āhatam rūpam asya rūpyo*, *dīnāraḥ rūpyaḥ*, *kedaraḥ rūpyaṁ kārṣāpaṇaṁ*'[10] In the similar sense, he points out, the word *rūpa* occurs in the *Mahāvagga* and in its commentry by

1. *Vedic Index*, Vol. 454–455 ; D. R. Bhandarkar, *Lectures on Ancient Indian Numismatics*, pp. 64–95 ; S. C. Chakrabortty, *Ancient Indian Numismatics*, p. 22 ; *J. N. S. I.* Vol. XV. pp. II–13.
2. *Lectures on Ancient Indian Numismatics*, p. 65.
3. Ibid., p. 68.
4. *J. N. S. I.* Vol. XV. pp 11–12.
5. *R. V.* II. 33. 10.
6. *Lectures on Ancient Indian Numismatics*, pp. 67–99.
7. Ibid , p. 68.
8. *Aṣṭādhyāyī*, V. 2. 20.
9. *Lectures on Ancient Indian Numismatics*, p. 132.
10. Ibid., p. 123.

Buddhaghoṣa and in the Hathigumpha inscription of Khāravela. [1]

But, while the meaning and explanation of the word *rūpa* is doubtful, it can be said that the word *rūpa* or *viśvarūpa* does not come in Vedic literature to denote the sense of symbol or stamp on the Vedic money. No Vedic commentator has so far explained the word *rūpa* or *viśvarūpa* in the above mentioned technical sense. Even no commentator earlier than Buddhaghoṣa (c. fifth century A. D.) has defined the word *rūpa* in the sense of a symbol. Moreover in the *Arthaśāstra* the word *rūpa* comes in a different sense. Kauṭilya mentions *rūpadarśaka* as the examiner of coins whose duty was to regulate currency both as medium of exchange and as legal tender admissible into the treasury. [2] There was another officer *lakṣṇādhyakṣa*, whose duty was to examine the symbol or stamps (*lakṣaṇa*) of the coins. He was mint master. [3] This shows that while the term *rūpa* meant the coin, [4] the term *lakṣaṇa* meant symbol or stamp of a coin. [5]

During the age of the *Brāhamaṇās* and the *Upaniṣads* also *niṣka* was not used in the sense of a standard coin, bearing some symbols, figures, or marks. [6] But, it was certainly

1. *Lectures on Ancient Indian Numismatics*, pp. 126–127; D. C. Sircar, *Select Inscriptions*, p. 207.
2. *Artha.* II. 12. 30.
3. Ibid. II. 12. 27.
4. It is to be pointed out that D. R. Bhandarkar himself is not sure about the exact meaning of the word *rūpa*. Once he takes it for a symbol or figure on a coin. *Lectures on Ancient Indian Numismatics* p. 68. But at another place he opines that the word *rūpa* from pre-Pāṇini time to the period of *Rājataraṅgaṇī* was understood for a coin. Ibid., pp. 128–35. Similarly he explains *rūpa* also as denoting the science of coinage. Ibid., p. 128.
5. *J. N. S. I.* Vol. XXII. p. 16.
6. *J. N. S. I.*, Vol. XV. pp. 15–16. Altekar has shown that though *niṣka* was given in the gift and in exchange, the other types of Vedic ornaments like *khādis, rumka, karṇaśobhana* etc. were never thus given. The basis of contrast was perhaps the exchange significance of the *niṣkas*.

recognized as an unit of barter of particular weight and value and was given as sacrificial fees.[1] Ṛgvedic *niṣkas* and *hiraṇyapiṇḍas*, in this period stood as link between money and currency stages. *Niṣkas* become popular as currency [2] only in the period of the *Jātakas* and began to be used in commercial transactions as medium of exchange. [3] Similarly, it may be presumed that Ṛgvedic *hiraṇyapiṇḍas* during this age and later adopted the form of *suvarṇa* of definite weight and value. [4]

The later Vedic *Saṁhitās* and the *Brāhmaṇas* refer to *śatamāna* and *pāda* as the two other demominations of metallic money. [5] As sometimes *śatamāna* has been mentioned along with *suvarṇa*,[6] it has been assumed by D. R. Bhandarkar and others [7] that *śatamāna* was a coin of gold. D. C. Sircar however, suggestes that the word *hiranya* in those days did not denote only gold, [8] but silver too. He thus propounds the theory that like *niṣkas*, *śatamāna* also was of gold as well as of silver. [9] But, the theory that the word *hiraṇya* denoted silver during the *Saṁhitā* period is very unlikely, because for silver the word *rajata* has been used as early as in the *Vājasneyī Saṁhitā*. [10] Whenever any distinction was to be pointed out between the *niṣka* of gold and the *niṣka* of silver the words *hiraṇya* and *rajata* were used. [11] Such distinction in the case of gold and silver *śatamānas* was not made in the later Vedic literature, [12] perhaps,

1. *Niṣka* and *hiraṇyapiṇḍas* were being given as sacrificial fee and not in commercial exchange *J. N. S. I.*, Vol. XV. pp. 15–16.
2. *Jātaka*, Vol. IV. p. 227, *Yājñavalkya*, I. 365.
3. *Jātaka*, Vol. IV. p. 227; *Manu*, VIII. 137.
4. *Śat. Brā.* XII. 7. 20. 13. XIII. 2. 3. 2.
5. *Vedic Index.*, Vol. I. p. 343, 516; Vol. II. p. 505; *J. N. S. I.* Vol. XV. pp. 16–17.
6. *Lectures on Ancient Indian Numismatics* p. 58.
7. Ibid. p. 57–58. *J. N. S. I.* Vol. XV. p. 16.
8. Ibid., Vol. XV. p. 137.
9. Ibid. p. Vol. XV. pp. 137–38.
10. *Vāja-Saṁ.* XXIII. 37.
11. *J. N. S. I.* Vol. XV. 149.
12. Ibid., Vol. XV. p. 159.

because the word definitely denoted a coin of a particular metal.

The weight of the Vedic *śatamāna* is still very puzzling. From the etymology of the *śatamāna*, some scholars have understood its meaning as weighing a hundred absolute units. The weight of *śatamāna* (which is not clear from Vedic literature) appears to have been governed by *kṛṣṇala.*[1] *Karaka*, the commentator of *Kātyāyana Śrauta Sūtra* has described the *śatamāna* as *vrittākāro raktikā śatamāno.*'[2] This further lends support to the conclusion that the basic weight unit of *śatamāna* was *raktikā* or *kṛṣṇala* and the weight of a hundred *krişṇalas* or *raktikās* of metal constituted one *śatamāna* D. C. Sirkar on the basis of *Manu* and *Yājñavalkya* has tried to disprove the above conclusion and has opined that the weight of the *śatamānas* was 32 *kṛṣṇalas* or *raktikās*. On the basis of the epigraphic evidence he has stated that the hundredth part of *śatamāna* was not *kṛṣṇala* but *mañjādis.*[3] Altekar, however, rejects his suggestion and holds that it is more likely that the hundred units of the *śatamāna* were equal to one hundred *krişṇalas* or *raktikās* in weight so frequently referred to in the *Saṁhitās* and the *Brāhmaṇas*, rather than *mañjādis*, which is not mentioned in them at all.[4]

In the *Bahudakṣiṇā* sacrifice, the king Janaka is said to have given a thousand cows each having ten *pādas* attached to their horns.[5] While the text does not indicate the metal of of the *pāda*, Altekar suggests, on the basis of *Patañjāli* that *pāda* was a coin of gold, though, he does not rule out the possibility of its being a silver coin also. He has identifid some silver coins of Paila hoard with the pāda coins.[6] It is

1. *Tait. Saṁ.* II. 3. 2. 1. *Maitrāyanī Saṁ.* II. 2. 2. *Tait. Brā.* 1. 3. 6. 7.
2. *J. N. S. I.* Vol. XV. p. 148. *Lectures on Ancient Indian Numismatics*, pp. 47, 50, 178, 193.
3. *J. N. S. I.* Vol. XV. 148 pp. 138–199. *Mañjādis* was a popular unit in South Indian weight system.
4. Ibid., Vol. XV. p. 148.
5. *Bṛhadāraṇyaka Upaniṣad*, III. 1. 1–2.
6. *J. N. S. I.* Vol. XV. p. 17.

possible to presume, however, that the *pāda* was not an independent coin but a fractional unit (¼) of either *śatamāna*, or *suvarṇa* or *niṣka*. as the literal meaning of the word suggests.

Though the significance of the Vedic *niṣka, śatamāna, suvarṇa* and *pāda* cannot be under-valued in considering the history of the development of the Indian coinage, their position in the field of commerce, however, seems to be insignificant. We have seen that none of the above mentioned coins have been ever referred to in the commercial context and appear only as sacrificial fee or gift or reward for religious, social and academic accomplishments.[1] These metal pieces having conventional size, shape, substance, value and weight had a sort of socio-economic significance, as they were the gifts from the kings,[2] and people gradually began to place confidence in their intrinsic value. Gradually, in the post-Vedic period, some of those forms of metallic money like *niṣka* and *suvarna* became the popular medium of exchange. Thus, in the *Jātakas*, *niṣka*,[3] *māṣa*[4] and *suvarṇa*[5] are mentioned in the commercial contexts. Pāṇini, while explaining the *sutra tena-kritam*[6] and *tad-arhati*,[7] refers to some coins like *niṣka, suvarṇa, māṣaka, śatamāna* etc. It clearly shows that the people had gradually begun to adopt gold and silver money as medium of exchange for highly priced commodities. Along with them, copper pieces also found a place as money for ordinary commercial exchanges.

Vedic metallic moneys like *niṣka, suvarṇa, śatamāna* etc. were minted perhaps by the state.[8] But later on it seems that

1. *J. N. S. I.*, Vol. XV. p. 17.
2. Ibid., Vol. XV. p. 17.
3. *Jātaka*, Vol. IV. pp. 97, 460.
4. Idid., Vol. IV p. 106, Vol. V. p. 164.
5. Ibid., Vol. VI. pp. 69, 186.
6. *Aṣṭādhyāyī*, V. 1, 37
7. Ibid., V. 1, 63. *Lectures in Ancient Indian Numismatics*, p. 45.
8. *J. N. S. I.*, Vol. XV. p. 18. It is borne out by the fact that *niṣka, suvarṇa, śatamāna, pāda* etc., were state gifts given by kings.

private business took the initiative and began to mint coins for meeting the requirements of day to day exchange. V. A. Smith is of the opinion that the punch-marked coins, the earliest specimens of Indian coinage were private issues of guilds and silver-smiths with the permission of the ruling powers.[1] Four coins (of not later than the 3rd. century B.C.) from Takṣaśilā have been described by A. Cunningham bearing the legend *negamā*,[2] corresponding to a sanskrit *naigāmaḥ* 'the traders[3] of *nigama*' market merchant, guild.[4] In any case, as Allan points out, it indicates mercantile money-token issued by traders or trade-token, coin of commerce.[5] A late authority[6] confirms that some *negamas* could issue coins. But gradually as states realised the importance of controlling the minting of coins, they began to exercise strict supervision over the system of currency. In this connection L. Gopal rightly observes that the evolution of the imperialistic tradition is related with the growth of a coinage system both as cause and effect. It was the growing needs of the state that necessitated a regular coinage,[7] though some minor states did not infring right of minting coins, as is the indication of *negamā* coins,

1. V. A. Smith. *Catalogue of Coins in the Indian Museum*, p. 133; Rapson also indorses this view *Indian Coins*, p. 3.
2. A. Cunnigham, *Coins of Ancient India*, p. 63, pl. III, nos. 8–11
3. Buhler, *Indian Studies*, III. 2nd edition, p. 49.
4. Cunningham, *A. S. R.* Vol. XIV, p. 20. D. R. Bhandarkar has suggested that *negama* stands for the *naigamāh* of the *Smṛtis* in the sense of city-states. *Lectures on Ancient Indian Numismatics*, p. 175. L. Gopal explains the term as denoting a particular type of locality inhabited by traders and businessmen. He says that the term *naigamāh* may have been derived both in the sense of a merchant and the corporate body of the merchants residing in that particular locality. *J.N.S.I.* Vol. XXII. pp. 38, 42.
5. Allan, *B. M. C. Ancient India* p. CXXVI. See also R.K. Mookerji, *Local Government in Ancient India*, p. 114; *Currency Problems in Ancient India*, pp. 14–15; Altekar *J. N. S. I.*, Vol. XIV. p 42.
6. *Visuddhimagga*, ch. XIV. *A. S. I. A. R.* 1913–1914, p. 226.
7. *J. N. S. I.*, Vol. XXII, p. 38.

for sometime.[1] Under the rule of the Nandas, standard weight of their coinage was determined[2] and later the Mauryan government established its control over the system of currency. Laksanādhyakṣa[3] was the officer-incharge of minting and rūpadarśaka[4] detected the counterfeit coins. When the state took upon itself the duties of minting coins, the individualistic features, through symbols, also became evident on the coins. Thus, several scholars like Durga Prasad,[5] Walsh[6] and D. D. Kosambi[7] have helped us in identifying the coins of the individual monarchs of the Śisunāga, the Nandas and the Mauryan dynasties.'

With the progress of time, the popularity of *niṣka*, as a metallic money of a definite weight and value began to increase. It became so standardised that people began to count wealth (*dhanam*) in terms of *niṣka*.[8] *Niṣka* was a gold[9] coin

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1. *J. N. S. I.*, Vol. XXII, p. 42.
2. नन्दोपक्रमाणिमानानि *Kaśika* II. 4. 21, VI. 2. 14; *India as known to Pāṇinī*, p. 252.
3. *Artha*, II. 12. 27.
4. Ibid., II. 12. 29
5. *J. A. S. B.*, (Numismatic Supplement), Vol. XLV. pp. 5-59; Vol. XLVII. pp. 51-92; *J. N. S. I.* Vol. II. pp. 14-21. Vol. IV. pp 81-132.
6. *M. A. S. I.*, No. 59. p. 3.
7. *New Indian Antiquary*, Vol. IV. pp. 60-66; D. D. Kosambi, *Introduction to Indian History*, pp. 162-186.
8. Pāṇinī refers to *niṣka* in several *sūtras* of the *Aṣṭāahyāyī*, V. 1.30, V. 2 119. This suggests that the wealth during those days was counted in terms of *niṣkas* e. g. शतसहस्रान्ताच्च निष्कात् V. 2. 119. V. S. Agrawala points to several references from the *Mahābhārata* शतेन निष्कगणितं सहस्रेण च संमितम् *Mbh.* Anuśāsana, 13. 43, and from the *Mahābhāṣya* नहि निष्कधनः शतनिष्कधनेन स्पर्धते *Mahābhāṣya*, V. 3. 55; *J. N. S. I* Vol. XV. p. 28.
9. *Jātaka*, Vol. I. p. 375; *Mbh.* Droṇa, 67. 3. *Kāśikā*, V. 2. 19; *Lectures on Ancient Indian Numismatics*, p. 48.

and sometimes, its value was overestimated.[1] Manu and Yājñavalkya equate 1 *niṣka* to 4 *suvarṇas*.[2] Patañjali refers to *pādaniṣka*.[3] On this basis we can assume the existence of a coin denomination known as *ardhaniṣka*. Patañjali's *pādaniṣka* may be equated with 1 *suvarna*. According to Kauṭilya the weight of 1 *suvarṇa* was equal to 1 *karṣa*[4] or 80 *raktikās*, which was also the weight of 1 *kārṣāpaṇa* (of gold). Therefore, 4 *kārsāpaṇas* or 4 *suvarnas* were equal in weight to 1 *niṣka*. Thus 1 *ardhaniṣka* was equal to 2 *suvarṇas* or 2 *kārṣāpaṇas*. A coin of lower denomination than *suvarṇa* or *pādaniṣka* was known as *māṣa* or *suvarṇamāṣa*.[5] According to D. R. Bhandarkar *māṣa* or *suvarṇa māṣa* was a gold coin of 1 *māṣa* weight.[6] Thus, the denomination of a *niṣka* can be tabulated as under :—

5 *kṛṣṇalas*[7] = 1 *māṣa* or 1 *suvarṇa māṣa*

16 *māṣas*[8] = 1 *suvarna* = 1 *pādaniṣka*

2 *pādaniṣkas* or 2 *suvarṇas* = 1 *ardhaniṣka*

4 *suvarṇas* or 4 *kārṣāpaṇas* or 2 *ardhaniṣkas* = 1 *niṣka*

1. सहस्र सौवर्णानि वृषभान गोशतानुगान् ।
साष्ट शतं सुवर्णाना निष्कमाहुर्धन तथा ॥
Mbh. Droṇa, 67. 10. V. S. Agrawala explains the meaning of a gold *niṣka* as an unit of wealth including 108 gold *niṣkas*. *J.N.S.I.* Vol. XV, p, 28. But, he has overlooked this interpretations in *India as known to Pāṇini*, pp. 259–260.
2. चतुःसौवर्णिकोनिष्को विशेयस्तु प्रमाणतः ॥ *Manu*, VIII. 130.
निष्क सुवर्णश्चत्वारः *Yāj.*, *I*. 365.
3. *Mahābhāṣya*, VI 3. 56; II. 163; *India as known to Pāṇini*, p. 260.
4. *Artha*, II. 18. 3. For the contrary view see *J. N. S. I.*, Vol. XXII. p. 30.
5. *Jātaka*, Vol. IV. pp. 167–167, Vol. V. p. 167
6. *Lectures on Ancient Indian Numismatics*, p. 53.
7. *Manu*, VIII. 134, *Yāj*., II. 363.
8. *Manu*, VIII. 134, *Yāj* , II. 363. *J. N. S. I.*, Vol. XXII, p. 30.

The relative position of the *śatamāna* with the gold *niṣka* is difficult to determin on the basis of Manu and Yājñavalkya. D. C. Sircar and S. K. Chakrabortty try to link the silver *śatamāna* coin of 320 *raktikas* with the *kārṣāpaṇa* system.[1] According to them a quarter *śatamāna* was equal to 1 *kārṣāpaṇa* of 80 *raktikas*. Thus, this would indicate that the *śatamāna* was also of 320 *raktikas* in weight. We have mentioned earlier that the etymology of the word *śatamāna* suggests that 1 *śatamāna* was equal to 100 *raktikas*.[2] Altekar opines that the old *śatamāna* used to be 100 *raktikas* in weight, which due to some economic necessity later on became of 320 *raktikas*.[3] S. K. Chakrabortty suggests that there were two systems of weights used in the currency in ancient India—one for gold and silver and the other for copper. According to him the *māna* unit of 5.6 grains was restricted to precious metals only and it was older in origin. The *raktika* unit of 1.75 grains came into use later and gradually supplanted the older unit. The sub-division of the old coin was based upon the *māna* unit, and when silver came into use for the first time, these were naturally equated in weight with the sub-multiples of the gold *śatamāna* to which people has been accustomed so long. The silver *dharaṇa* thus, was equated with 1/10 of a *śatamāna*, i.e., a piece of 23 *raktikas* or 56 grains in weight, while a half *dharaṇa* was equal in weight to 1/20 *śatamāna*. Such a low sub-division of the coin was necessiated by the economic condition of of the country.[4]

The history of *śatamāna* is based on the theory that *manā*[5] was an older unit of weight than *kṛṣṇala*.[6] But it may be pointed out that while the word *manā* is not found in the

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1. *J. N. S. I.*, Vol. XIV, p. 142, *Ancient Indian Numismatics*, pp. 42–44.
2. *Lectures on Ancient Indian Numismatics*, p. 57.
3. *J. N. S. I.* Vol. XV. pp. 148–149.
4. *Currency Problems in Ancient India* p. 28.
5. *Vedic Index*, Vol. II pp 128–129.
6. Ibid., Vol. II. p. 505.

Vedic literature, the *kṛṣṇala* occurs in the *Saṁhitās* and the *Brāhmaṇas*.[1] Moreover, there is little positive evidence in the Vedic literature to show that in ancient India, the two weight-systems really did flourish. It may also be pointed out that no coin of such a heavy weight as *śatamāna* of 320 *raktikas* has so far been found from any of the archaeological excavations. Therefore, Altekar opines that the *śatamāna* of 320 *raktikas* seems rather to have been a currency for account books than for actual business transactions[2] The theory that *śatamāna* system was applied in the case of gold and silver coins is also untenable due to the facts that gold and silver *kārṣāpaṇas* had their independent systems of weight, probably based on the ratio of the prices of gold and silver and that no punch-marked coin has been reported to have been found, which might correspond to the *śatamāna* system of 320 *raktikas*.

John Marshall found in the Bhir mound of Takṣaśila some punch-marked pieces along with the coins of Alexander and one of Phillip Aridaeus.[3] According to Allan the weights of these coins range between 155.7 grs to 177 3 grs. and their date of manufacture may be assigned to the middle of 4th century B. C.[4] V. S. Agrawala opines that 'in

1. Supra. p. 194.
2. *J. N. S. I.*, Vol. XV, p 149.
3. *Taxila*, Vol. II. pp 751–752 Vol. III. p, 234.
4. *B. M. C. Ancient Indian*, pp. XLII, LVI–LVII. There is much controversy about the stratagraphical significance and the date of these coins. E. H. C. Walsh says that these punch-marked coins belong to 300 B. C. *Taxila* Vol. II. pp. 843–852. P. L. Gupta thinks the evidence of Taxila hoards as of much value for the dating of the punch-marked coins and takes these coins as belonging to pre-Mauryan or Early Mauryan dates. *J. N. S. I.* Vol. XII. pp. 136–149, Vol. XIX pp. 5–8. A. H. Dani, on the basis of the stratagraphy of the Bhir mound suggests the date of these coins as post-Mauryan. *J. N. S. I*, Vol. XVII. pp. 27–32. A. K. Narain, however, rightly thinks that while the antiquity of the punch-marked coins may be pre-Mauryan or early-Mauryan, 'there is hardly any reason to regard the evidence of the Taxila hoards as of great value for the determination of a relative chronology of punch-marked coinage.' *J. N. S. I.* Vol. XIX., p. 105.

terms of an Indian weight standard these oblong (bent) bars approximate to 100 *rattis* or 180 grains weight, the heaviest one of 177.3 grains being equal to 98.5 *rattis*, 1 *ratti* weighing 1.8 grains. Taking the literal meaning of *śatamāna* of the weight of 100 *mānas* or *krishnalas*...it would thus appear that the Takshashilā bent-bar coins (shalākā) represent the ancient *śatamāna* coins of silver.' [1] He further says that as Kātyāyana mentions such units as *adhyaardhaśatamāna*, *dviśatamāna*, it seems that *śatamāna* system of coins continued to flourish till the time of Kātyāyana (600 B. C.). [2] Altekar accepts this suggestion of V. S. Agrwala and points out 'that some thin, large coins have been found in ancient Kośala, which weigh between 75 and 79 grains.' According to him, these would be *ardhaśatamāna* coins, while the coins found in the Paila hoard weighing 44 grains would be a quarter *śatamāna* or *pādaśatamāna*. [3] He also identifies the group of 14 broad thin coins (now in the Lucknow Museum) published by Durga prasad[4] weighing 42 grains with the quarter *śatamāna*. Simmilarly, according to him, the Sonapur silver punch-marked coins, weighing 192 grains may also be identified with the *pāda-ardhaśatamāna* or *śāṇa* [5] The theoretical weight of 1 *śāna* was 12½ *raktikās* or 22.5 grains and it was 1/8 of *śatamāna*. According to V. S. Agrawala *śāṇa* may be identified with the *aṣṭabhāga* mentioned in the *Arthaśāstra*, which was 1/8 of *kārṣāpana*.[7] He also opines that the whole gamut of sub-multiples associated with the silver *śatamāna* was preceeded by the *kārṣāpaṇa* currency also. [8]

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1. *J. N. S. I.* Vol. XV. pp. 30–31. This identification has been suggested originally by E. M. C. Walsh. *M.A.S.I.* No. 59. p. 3.
2. *J. N. S. I.*, Vol. XV. pp. 30–31.
3. Ibid., Vol. XV. p. 21.
4. *J. A. S. B.*, (*Numismatic Supplement*), Vol. XLV. pp. 9–13.
5. *J. N. S. I.* Vol. XV. p. 21.
6. अष्टौ शाणाः शतमानं वहन्ति । *Mbh.* Vana. 134. 15; *J. N. S. I.* Vol. XV. p. 31.
7. Ibid., Vol. XIV. p. 25.
8. Ibid., Vol. XIV. p. 25.

But, it may however, be observed in this connection that though V. S. Agrawala has attempted to identify *śatamāna* coins with the long or oblong bent-bar coins of Takṣaśilā hoard, his identification is untenable in the light of literary evidence about *śatamāna*, which suggests that the shape of *śatamāna* coins instead of being long or oblong was perfectly round (*pravṛtta*). In the *Śatapath Brāhmaṇa*, as we note from the text, [1] the shape of *satamāna* has been expressly described as 'perfectly round' (*pravṛttau*). The tradition that *śatamāna* was a coin of round shape was deep rooted and continued till the time of Karaka, who has commented on the *Kātyāyana Śrauta Sūtra*. According to him *śatamāna* was a coin of round shape (*vṛttākārau*). [2] V. S. Agrawala, further says that *śatamāna* was a common type of currency prevalent in northern India, but he identifies them with the silver bent-bar coins, which have been found only near about Taksaśilā. Silver bent-bar coins have not been found in the whole of northern India. Again, if the identificaton of sub-multiples of *śatamāna* with the coins found in the Paila hoard and with the coins found in the Gangetic valley is correct, it is almost strange that while *śatamāna* coins have been found only in the neighbouring regions of Takṣaśilā, its sub-multiples have been found in the Gangetic valley only.

But though the currency significance of *śatamāna* is doubtful, the use of *kārṣāpaṇa* [3] as a medium of exchange since about 600 B. C. is almost an established fact. About its metallurgy and weight the scholars have opined that *kārṣāpaṇas* were of three varieties i. e. of gold, silver and copper. The theoretical weight of a *kārṣāpaṇa* was one karṣa i. e. 80 *raktikās*. [4]

Bhandarkar has identified gold *kārṣāpaṇa* with the *suvarṇa*

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1. शतमानौ प्रवृत्तौ आबध्नीति ।
   शतमानौ प्रवृत्तौ दक्षिणा । *Śat. Brā.*, V. 4. 3. 24; V. 4. 3. 26.
2. वृत्ताकारौ रक्तिका शतमानौ, Karaka on *Kātyāyana Śrauta Sūtra*, XVI. 181. Quoted by A. S. Altekar in *J. N. S. I.* Vol. XV. p. 16; *Lectures on Ancient Indian Numismatics*, pp. 156–157.
3. Ibid., pp. 78–79.
4. *Manu*, VIII. 136; *Yāj.* I. 365.

on the basis of weight.[1] In the *Arthaśāstra suvarṇa*, is mentioned as of one *karṣa* in weight. [2] Unfortunately, no specimen of gold coin of this weight has yet been discovered. But, while the identification of gold *kārṣāpaṇa* with *suvarṇa* is doubtful, silver *kārṣāpaṇas* have generally been identified with the silver punch-marked coins. *Kārṣāpaṇa*, as a coin name, has been mentioned in the Nasik cave inscription. [3] Kauṭilya has mentioned *prati* as another name for *kārṣāpaṇa*. [4]

On the basis of Manu and Yājñavalkya some scholars have equated the silver *kārṣāpaṇa* with the silver *dharaṇa*. [5] Manu has given the weight of 1 silver *dharṇapurāṇa* as 32 *raktikās*. [6] This identification of silver *kārṣāpaṇa* with the silver *dharaṇa* or *dharaṇapurāṇa* has been accepted by scholars on the basis of the discoveries of silver punch-marked coins of 32 *rattis* or 58. 56 grains. [7] This is more acceptable because of the fact that no silver punch-marked coin of 80 *raktikas* has been found. [8]

But in the *Arthaśāstra* the weight of silver *kārṣāpaṇas* is fixed as 1 *karṣa*, D. R. Bhandarkar opines that while in the time of Kauṭilya the weight of gold and silver *kārṣāpaṇa* was 1 *karṣa*, i. e., 80 *raktikās*, later on in the time of Manu and Yājñavalkya the weight of gold and silver *kārṣāpaṇa* became reduced to only 32 *raktikas*. [9]

Silver *kārṣāpaṇa* had a long tail of sub-multiples. V. S. Agrawala has presented the following table of *kārṣāpaṇa* and its sub-multiples[10] :—

1. *Lectures on Ancient Indian Numismatics*, p. 90.
2. *Artha.*, II. 19. 3.
3. *J. N. S. I.* Vol. XII. p. 32.
4. *Epigraphia Indica*, VIII. p. 82; *J. N. S. I.* Vol. X. p. 32.
5. *Lectures on Ancient Indian Numismatics*, pp. 82–84, 92.
6. *Manu*, X. 135–136.
7. *Lectures on Ancient Indian Numismatics*, pp. 82–84, 92, 114; *India as known to Pāṇini*, p. 226.
8. *Lectures on Ancient Indian Numismatics*, p. 94.
9. Ibid., p. 93.
10. *India as known to Pāṇini*, pp. 265–266; *J. N. S. I.*, Vol. XV. p. 34. Vol. XIII. pp. 164–174.

Division	Pāṇini	Jātakas	Arthaśāstra
1/1	*kārṣāpaṇa* and *paṇa*	*kahāpaṇa*	*paṇa*
1/2	*ardha*; also called *bhāga*	*aḍḍha*	*ardhapaṇa*
1/4	*pāda*	*pāda*; *chattāro-māsaka*	*pāda*
1/8	*dvimāṣa*	*dvemāsaka*	*aṣṭabhāga*
1/16	*māṣa*	*ekamāsaka*	*māṣaka*
1/32	*ardhamāṣa*	*aḍḍhamāsaka*	*ardhamāṣaka*
	kākaṇi (*Vārtika* on V. 1. 33.)	*kākiṇi*	*kākaṇī*
	ardhakākaṇī (*Vārtika*)		*ardhakākaṇī*

But, though the standard weight of the silver *kārṣāpaṇa* was 32 *raktikās*, there were also some silver punch-marked coins of heavier weight. Most popular coin of this type was *viṁśatika*[1] of 20 *māṣa*. The *Samanta Pāsādikā* commentary of of Buddhaghoṣa on the *Vinaya Piṭaka* confirms the statement of Pāṇini. [2] According to this work, in the time of the king Bimbisāra, in the city of Rājagṛha, a *kahāpaṇa* was equal to 20 *māṣas*. Actual specimens of *viṁśatika* coins have been found and identified by Durga Prasad with the coins of 78 to 80 grains from Rajgir.[3] Pāṇini also mentions a *triṁśatika* coin.[4] Examples of such coins have been found by Durga

1. *Aṣṭādhyāyī*, V. I. 32, V. I. 27.
2. तदा राजगहे विसतिमासको कहापनो होति, तस्मापञ्चमासको पादो । *Samanta Pāsādikā*, III. 45 *Lectures on Ancient Indian Numismatics*, pp. 111–112, 186; *J. U. P. H. S*, Vol. VI. (1933) p. 187; D. C. Sircar, *J. N. S. I.* Vol. XIII. p. 187; V. S. Agrawala, Ibid., Vol. XV. pp. 35–36. The existence of *viṁśatika* coins is also proved by the *Gaṅgamāla Jātaka*. *Jātaka*, Vol. III. p. 448. See also *Taj*, I. 364.
3. Actual specimens of *viṁśatika* and their other denominations have been found in the Pañcāla region. A. Cunningham, *Coins of Ancient India*, p. 81; *J. N. S. I.* Vol. XV. pp. 36–37.
4. *Aṣṭādhyāyī*, VI. 24.

Prasad from Bihar, which weigh 104 grains and 105–107 grains or 58 *raktikās*.[1] The theoretical weight of a *trimśatika* was 30 *māṣas* or 6 *raktikās*. V. S. Agrawala on the basis of literary references and on actual finds has proved that the heavier coin denominations, following the *vimśatika* weight system also existed and were known as *trivimśatika, dvivimśatika, adhyardhavimśatika*. Their weights accordingly were 120, 80 and 60 *raktikās*. Following the weight standard of *kārṣāpaṇa*, i.e., 32 *raktikās* there also existed, as V. S. Agrawala points out, *ardhavimśatika* and *pādavimśatika* of 20 *raktikās* and 5 *māṣas* respectively.[2]

The weight of copper *kārṣāpaṇa* was 1 *karṣa*, i.e., 80 *raktikās*.[3] Kauṭilya gives a formula of alloy, which was to be mixed for making a silver *kārṣāpaṇa* (*rūpya-rūpa*) and its submultiples. Thus, he says that the 'superintendent of mint shall carry on the manufacture of silver coins made up of four parts of copper and one-sixteenth part (*māṣa*) any one of the metals, such as *tīkṣṇa, trapu, sīsa* and *añjana*'[4] 'For copper *kārṣāpaṇa*,' he says that' coins (*tāmrarūpa*) made up of four parts of an alloy (*pādajīvam*) shall be a *māṣaka*, half a *māṣaka, kākaṇī* and half a *kākaṇī*.'[5] R. Shamasastri, on the basis of a commentary, explains 'the composition of a *pādajīvam* as a coin made up of four parts of silver, eleven parts of copper and one part of *tīkṣṇa* or any other metal.'[6] But, according to Manu, *kārṣāpaṇa* was essentially a copper coin and its weight was 80 *raktikās*, i. e., 1 *karṣa*.[7] It is not, however, clear whether copper *kārṣāpaṇa* followed for its sub-multiples the same weight system of silver *kārṣāpaṇa* or it has its own system of sub-multiples. On the basis of the term *pādajīva*, the name of a coin denomination in the *Aṣṭādhyāyī*, V. S. Agrawala,

1. *J. U. P. H. S.* Vol. XII. (1939) p. 33.
2. *J. N. S. I.* Vol. XV. pp. 36–39.
3. *Manu*, VII. 136; *Yāj*. I. 265.
4. *Artha*, II. 12. 27.
5. Ibid., II. 12, 27.
6. Ibid., (S) p. 87.
7. कार्षापणस्तु विज्ञेयस्ताम्रिकः कार्षिकः पणः । *Manu*, VIII. 136.

however, suggests that copper *kārṣāpaṇa* followed the weight system of the silver *kārṣāpana*.[1] Thus the following table would explain the *kārṣāpaṇa* coin series along with its weights [2] :—

Denomination	Weight[3] in *raktikās*	Weight in grains
kārṣāpaṇa	80	144
ardhakārṣāpaṇa	40	72
pādakārṣāpaṇa	20	36
trimāṣa	15	27
aṣṭabhāgakārṣāpaṇa or *dvimāṣa*	10	18
māṣa	5	9
ardhamāṣa	2 5	4·5
kākaṇī	1·25	2·25
ardhakākaṇī	·623	1·125

The sudden fall of the Mauryan Empire in the 2nd century B. C. gave a shock to the progress of trade as well as currency. On the ruins of the imperial structure of the Mauryas there arose a number of principalities, both republican or tribal and monarchical such as Taksaśilā, Pañcāla, Mathurā, Kauśāmbī, Kānyakubja, Ayodhyā, Śrāvastī etc. bringing decentralizaton in politics as well as trade and currency. Due to the fall of the Mauryan Empire the trade-routes came under the control of more than one state, which was very much detrimental to the free flow of commerce. The north-western section of the Uttarāpatha, particularly in the west of Taksaśilā, went under the hostile Indo-Greeks, who, probably to create crisis in the native currency system, stopped the supply of silver from the Bactrian region.[4] This crisis in the availability

1. *J. N. S. I.*, Vol. XV. p. 34.
2. Ibid., Vol. XV. p. 40.
3. This weight is almost confirmed by the actual find of copper coins found at Besnagar weighing 147. 5 grains. *Lectures on Ancient Indian Numismatics*, pp. 112–113.
4. C. J. Brown, *Coins of India*, p. 14; L. Gopal points out that the possible source of silver for the punch-marked coins are the mines of Persia and Afghanistan. 'Source of Silver for the Punch-Marked Coins', *Chronology of the Punch-Marked Coins*, pp. 68–69.

of silver to support a large scale currency system was felt even by the descendants of Aśoka, who may be considered as the issuers of the copper punch-marked coins, now found very rarely. [1] The rairty of the copper punch-marked coins indicates the instability of the Mauryan government. But they introduced copper in the Indian currency-system, [2] which was acceptable to the later governments also for atleast three or four centuries to come. It may be pointed out that the copper issues of the post Mauryan governments were very much useful for day to day exchanges, while the old issues of silver punch-marked coins of the Mauryas also remained current in the market for some time and were found useful in the business of highly priced commodities. It cannot be presumed that the punch-marked coins of silver went out of the market just after the fall of the Mauryan Empire. As usually happens, the faith of the people in the coins of the fallen empire is not shaken easily. These coins must have, therefore, remained in circulation for quite some time.

In the absense of any central authority, such as was of the Mauryas, the local rulers[3] took lead in matters of currency and trade and thus they issued copper coins, which was particularly suitable to support the local trade and commerce. The large number of coins issued by the different powers indicate

1. *B. M. C Ansient India*, p. LXXVII.
2. Literary evidence for copper currency, however, indicates an early antiquity. *India as known to Pāṇini.* pp. 269–270; Supra, pp. 168, 171–172.
3. There is every possibility that besides the states, traders as well as trade-guilds also, as we see in case of the *negama* series of Takṣaśilā coins, assumed authority to issue coins to support their trade, particularly, where the state currency was not in good condition. Even the Mauryas does not seem to have imposed the complete ban on trader's right to issue coins; on the contrary, it seems that the power of the Mauryan state was limited only to marking and testing the metal of coins through the officials like lakṣaṇādhyakṣa and rūpadarśaka. *Artha*, II. 12. 27–30.

a developed monetary economy and possibly the gainful nature of trade also.[1]

Most of the states of the post-Mauryan period adopted a system of monometallic currency in copper, which were designed on the familiar forms of *kārṣāpaṇa* and had on them a number of old symbols to make them easily acceptable in the respective markets. But while there was similarity in metal and probably they followed a similar weight system also,[2] there was no uniformity in the symbol-composition of their coinage and by showing this distinction they probably, expressed their political individuality as well as the territorial usefullness of their coinage. They also represent the territorial characteristic of trade and commerce, of which their coins served as the metallic media of exchange. But in the states, where the trade was in flourishing condition and had extra-territorial significance, coinage also had the symbol of extra-territorial influence, popular in trade and economic life. A study of symbols on coins of respective *janapadas* indicates that apart from their individualistic groupings, most of the local coins also show contacts and borrowings Such contacts are indicative of their trade-relations. Thus the copper coins of Taksaśilā indicate some influence on Ayodhyā copper coins, both important trade-centres. The type III of Ayodhyā copper coins shows resemblance with the Taksaśilā pieces bearing steel-yard.[3] The representation of steel-yard on Ayodhyā and Takṣaśilā coins is not without economic significance. The Ujjain symbol has profusely influenced the symbol-composition of copper coins of the tribal and local states indicating the role and influence of Ujjain as a commercial centre, on the trade-centres of Mathurā. Pañcāla, Kauśāmbī, Vārāṇasī, Pāṭaliputra, Śrāvastī etc. This is also indicative of the fact that the significant source of supply of copper, besides the

1. G. L. Adhya, *Early Indian Economics*, p. 1.
2. Due to frazile nature of copper, it is difficult to work on the meterology of copper coinage. *B. M. C. Ancient India*, p. CLXIII.
3. Ibid, pp. CXXVI–XXXVIII; *Coins of Ancient India*, p. 63.

native mines, was Ujjain, where copper was brought directly from Bharukaccha (Barygaza). The *Periplus* informs that copper in no less quantity was imported into Barygaza.[1] During the Mauryan period, as we have seen before, the silver punch-marked coins or the silver *kārṣāpaṇas* were current as legal tender in day to day business. But side by side with these pieces, some copper coins of different denominations were also in circulation and have been found from the same sites.[2] These cast-coins bear symbols, which show a family resemblence with those on the silver punch-marked coins and therefore are supposed to belong to about the same period.[3] These are square or rectangular in shape like the most of the punch-marked coins.[4]

The foreign rulers, the Indo-Greeks, the Indo-scythians, and the Indo-Parthians had to issue silver coins (copper coins also) to fill the gaps in the monetary system due to the fall of the Mauryan Empire as well as to meet the huge cost of their military operations in India. But it is difficult to ascertain their exchange value and their effect on Indian commerce In the beginning, their effect seems to have been obviously regional and political. In some cases they were merely commemorative medalions.[5] They do not seem to have any financial value. But soon the foreign rulers began attempts to popularise their coinage and to stabilise their exchange value. Their kings adopted several devices to gain favour for their currency in India so that the native *kārṣāpaṇa* system might be replaced by it. Firstly, they adopted the square shape of *kārṣāpaṇa*. Secondly, they issued coins bearing the legends in the local scripts. Thirdly, they issued coins of silver as far as possible to fill the gap in the native monetary system caused by the paucity of silver in the tribal

1. *Periplus*, 49.
2. *B. M. C. Ancient Indian*, pl. LXXIV.
3. Ibid, pl. LXXIV, LXXVIII.
4. *Coins of India*, p. 14.
5. A. K. Narain. *The Coins Types of the Indo-Greek Kings*, pp. 6, 9, 11, 15, 35.

states, which had stopped issuing new silver *kārṣāpaṇas*. Fourthly, the foreign rulers adopted the Indian numismatic symbols, such as *vajra*, *bāṇa*, *meru*, *dharmacakra*, *caitya*, *triśula*, *nandipada* etc. and some Indian deities, such as Lakṣmī and Śiva on their coins. These devices might have appealed to the emotion of their people to adopt their currency in their day to day business-transactions. Thus, we find Demetrius II, ruler of the Indo-Greek family, who subjugated a considerable portion of Gandhāra, trying to bring his issues very near the native currency-system in shape, legend, technique etc. He has issued a type of bronze (or copper) coins of the Indian style, which bear the legend '*maharajas apaditasa dimitriyasa*' in the Kharoṣṭhī besides the Greek legend of .'*Basileos Aniketoy Demetrioy*. [1] Same tendency can also be attested in the case of square shaped bilingual bronze coins of his rival Eukratides. [2] Most of the successors of Demetrius II such as Pantaleon, Agathocles, Menander, Polyxenus, Strato I etc. also followed the tradition of issuing bilingual coins. [3] Menander has represented bull (*nandi*) on some of the square coins. [4] This may be an artistic and elaborate reproduction of *nandipada* symbol of punch-marked coins. Indo-Scythian kings also followed the tradition of the Indo-Greeks. According to J. N. Banerjea, Siva in human from occurs for the first time on the coins of Maues, the founder of the Indo-Scythian dynasty. [5] Similarly we find Lakṣamī represented on the coins of Azes I. [6] The silver coins of western *kṣatrapas*, which were popularly known as *kārṣāpaṇas* [7] also betray Indian features. When Gautamīputra subjugated the territory of Nahapāna, he permitted the

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1. R. B. Whitehead, *The Catalogue of the Coins in the Punjab Museum*, Vol. I. p. 14, Pl. 1. pl. I. 26.
2. id., p. 22, pl. III. 87.
3. *Coin Types of the Indo-Greek Kings*, pp. 7, 8, 13, 15–37.
4. Ibid. p. 15.; *Catalogue of coins in the Punjab Museum*, p. 99, pl. X, 103.
5. J. N. Banerjea, *Development of Hindu Iconography*, p. 120.
6. *Coins of India*, p. 28.
7. E. J. Rapson, B. M. C. *Āndhra*, p. CLXXXIII–CLXXXIV.

coins of Nahapāna to circulate in his newly subjugated kingdom after simply restriking them.[1] It seems thus, that there was little difference between the silver currency systems of Nahapāna and Gautamiputra. Western Kṣatrapas adopted Brāhmī for legend on their coins, besides Kharoṣṭhī and Greek and adopted Indian symbols like *vajra*, *bāṇa*, *dharma-cakra*, *meru*, *caitya* etc.[2] In this way, the foreign rulers popularised their government and political dominance among their Indian subjects through coinage. This had great influence on commerce, not only local but extra-territorial also. It seems, that to a considerable extent they filled the gap in the silver currency caused by the fall of the Mauryan Empire. Their attempt was followed by some Indian states also, mostly for economic reasons.[3] Silver coins were issued by a number of Indian republican and tribal states like Audumbara, Yaudheya, Kuninda etc.[4] Silver issues of Indian states, to some extent, were identical to the Indo-Greek and the Indo-Scythian issues.[5] Allan remarks about the Kuṇindas that 'economically the silver coins of the Kuṇindas represent an attempt of an Indian ruler to issue a native silver coinage which would compete in the market with the later Indo-Greek silver.'[6]

Particular notice may be taken about the currency policy of the Āndhra rulers of the Sātavāhana dynasty. These rulers, though maintained a perfect uniformity in the coin denominations, issued different types of coins with a view to meet the demand of enter-state commerce. They issued their copper coins with the Ujjain symbol, which were especially suitable for the commercial transactions in the Avanti region.[7] But

1. *B. M. C. Āndhra*, p. CLXXXIV.
2. *Coins of India*, p. 31.
3. *B. M. C.Ancient India*, pp. CII, LXXXIV etc.
4. Ibid., pp. 120, 123, 125, 159–161, 270.
5. Ibid., pp. CII–CIII.
6. Ibid., pp. CII–CIII.
7. *B. M. C. Āndhra*, p. LXXII, Pls. I. 5, 8, 9, IV, 87, V. 89, 93, *115, VI. 119, 126, 139, 149, VII. 164, 166, 100, etc.*

more interesting coins were those portraying ship, found from the Coromandel coast, between Madras and Cuddalore. These coins were issued by Pulmāvī and represented ship, besides Ujjain symbol.[1] These 'ship' type, coins, besides indicating the political dominance of Pulamāvī in the region, are also the evidence of maritime traffic of the traders patronised by the Sātavāhana rulers.[2] Beside these special issues, the standard coinage of the Sātavāhanas, which was predominately of lead,[3] was also of great economic significance. In the absence of silver in the South, lead was the only alternative, with which the Sātavāhna's maintained the monetary balance between the two currency systems, i.e., of copper in the North and of silver in the West. More or less the same was the significance of their coins of billon.

It is strange that we have not yet found any specimen of gold coin prior to the time of the Kuṣāṇas, though literary evidence, as noted above, suggests the Vedic origin of gold currency.[4] But, whatever may be the position of gold currency in the pre-Kuṣāṇa India, it can very well be stated that since the advent of metallic currency (of which we find actual specimen) it is the silver and the copper currency, which played an impatant part in the economic life of India. Even the Indo-Greeks and their successors, the Indo-Scythians and the Indo-Parthians did not find any scope for gold coins in Indian markets, though their ancestors, even their contemporaries in Bactria, had issued such coins.[5] Then, what was the reason that the Kuṣāṇas issued gold coins ? In this connection E. H. Warmington opines that after the fall of the Indo-Greeks, the Yu-chies helped the Indo-Roman land-trade.[6] They, by conquering the regions of Bactria, Kabul and Kandahar, controlled the gates of India and established a

1. *B. M. C. Āndhra*, pp. LXXXI-LXXXII; Supra, pp. 154-155.
2. Ibid., p. LXXXII.
3. *Currency Problems of Ancient India*, pp. 25-26.
4. Supra., p. 159.
5. *Catalogue of Coins in the Punjab Museum*, p. 9, Pl. I.
6. *Commerce between Roman Empire and India*, pp. 297-298.

solid power in the Indus delta and Afghanistan and encouraged a regular trade, in due course, from the Ganges to Euphrates by land and from the Ganges to Persian Gulf by way of the mouths of the Indus. Among the factors responsible for the revival of Indo-Roman land-trade were the rise of Palmyra, Trajan's visit to the Persian Gulf and his control on the trade of the neighbouring regions, Hadrians policy of peace, Roman military action in the regions of the Caucasus, and of the Euxine etc. [1]

All these factors naturally made Kuzula interested in Indo-Roman land-trade. He encouraged traders by introducing a system of coinage on Roman pattern. According to Warmington some bronze or copper coins of Kuzula represent an effigy having likeness to the head of Augustus. [2] But he, significantly enough, points that most of the coins of the first Kadphises (Kuzula) are utterly un-Roman in look, and those which appear to resemble the Roman are very rare and belong to one mint only, in a place perhaps exposed to Roman influence. [3] These coins were of little commercial significance, particularly from the point of view of external trade. He presumes that Kuzula issued coins on the pattern of Roman coins and in imitation of western example's at the suggestion of Greek and Syrian merchants. But he remarks that though Kuzul Kadphises took the idea of issuing gold coins, this had only taken place in bronze or copper of little commercial significance, and it was Kadphises II (Vima), who grasped either on his initiative or by Roman persuance, the idea of issuing gold coins on Roman pattern. [4] 'There was already a large importation of Roman gold and silver coins into the marts of India, and Kadphises II, seeing the advantage of a gold currency, struck a plentiful issue of what we may call oriental aurei, for they agree in weight with the Roman aurei, and are but little inferior in purity, and moreover the one known silver

1. *Commerce between Roman Empire and India*, p. 291.
2. Ibid., p. 296.
3. Ibid., p. 297.
4. Ibid., pp. 298.

coin struck by Kadphises II corresponds with one weight of Roman denarius. These provide striking evidence of the new developments in the Indo-European commerce.'[1] Robert Göbl has further developed this hypothesis. According to him, Kuṣāṇas invaded India due to their interest in the trade of the Romans and of the Chinese empire with India. Entering India, Kuṣāṇas became familiar with the chief types of Roman republican coinage, in addition to main types of the coinage in the Hellenistic East with which they were acquainted since long. They established very close connections with Alexandria, from where they got techinically expert mint-masters familiar with the art of die-cutting and dactylography.[2] R. E. M. Wheeler has rather over emphasised the significance of Alexanderia and her technicians, while evaluating the role of Alexandria in the revival of Romano-Indian land-trade, as well as in the development of Romano-Indian art in the Gandhāra region.[3] The Roman influence on the art, culture and coinage of the North-West India in the time of the Kuṣāṇas, was very negligble and they hardly go to suggest any Roman initiative. So far as the Roman influence on Indian coinage is concerned, David W. Mac Dowall rightly observes that no precise correspondence can even in fact have been intended between the two coins (Roman and Kuṣāṇa) even at the time when the denomination was first introduced by Vima Kadphises. The only Roman aurei that were struck to the weight standard of 8·0 gms. adopted by Vima are the aurei of the moneyers of Augustus (19–12 B. C.); and this is for too early a date for Vima Kadphasis on any chronology. The difference between the weight standard of the pre-reform aureius of Nero and that of the Kuṣāṇa dinars is 0·4 gms. This difference in weight is quite a considerable one. There would indeed have been no point anyhow in an exact parity between the Kuṣāṇa and Roman gold denominations. They

1. *Commerce between Roman Empire and India*, p. 298
2. Robert Gobl, 'Roman Patterns for Kuṣāṇa Coins,' *J. N. S. I.*, Vol. XXII, pp. 78–79.
3. *Rome beyond the Imperial Frontiers*, pp. 200–202.

never seem to have circulated freely side by side in the same or adjacent territories, and both coins represented quite a considerable sum of money and would probably be exchanged principally in large scale commercial transactions by international traders. [1]

The time gap between the reign of Augustus (19–12 B. C.) and the reign of Kuzula Kadphises and Vima Kadphises (c. 60 A. D. [2] —78 A. D.) is very significant. After the death of Augustus, there were radical changes in the monetary-system of Rome. It is certain that in the time of Augustus Roman merchants had not penetrated by land in to India.[3] But Rome was in the demand of Indian merchandise and the king Augustus took measures to reconcile the barriers of direct Romano-Indian trade by sending forces against Himayavitie-Sabaeans and an expedition under Aelius Gallus in the Southern Arabic and Ethopia. [4] All these show that in the time of Augustus, the Roman attempt to open direct trade-routes with India, was limited to sea only and that had little to do with the monetary system of the Kuṣāṇas. The occurence of the effigy of Augustus on the copper coin of Kuzula is probably a work of an unskilled mint-master, who being ignorant of the monetary designs of Kuzula Kadphises, turned the effigy of Kuzula into the effigy of Augustus similarly as the sculptors of Gandhāra being ignorant and untrained in the art-traditions of Mathurā, turned Buddha into Apollo. Had Kuzula or Vima needed any Roman pattern for their coinage, it would have been more logical for them to copy some contemporary Roman emperor, whose coins were current in the markets, rather than Augustus, whose reign came to an end long before the rise of the dynasty of the Kuṣāṇas in India. While we shall take this issue a little later, we may, however be permitted

1. David W. Mac Dowall, 'The Weight Standard of the Gold and Copper Coinage of the Kushāṇa Dynasty from Vima Kadphises to Vāsudeva,' *J. N. S. I.*, Vol. XXII, pp. 67–68.
2. *Indo-Greeks*, p. 161.
3. *Commerce between Roman Empire and India*, p. 22.
4. Ibid., pp. 14–15.

to reconsider the significance of Kuṣāṇa's possession of the commercial gates of India in the N. Western region. These were also in the possession of Indo-Greeks and Indo-Scythians. Now if, as Warmington [1] holds that land-traffic between India and Rome was revived only because Kuṣāṇas held their sway over Afghanistan, Kabul and Kandahar, why this was not possible in the time of the Indo-Greeks and the Indo-Scythians, who also held sway over those areas. Why Greek and Syrian merchants could not persuade them also to issue gold coins on the Roman pattern ? Similarly, it seems that while evaluating the role of Roman merchants in relation to the revival of Romano-Indian land-trade, Warmington has over estimated the significance of the so called visit of Indian Embassy in the court of Augustus,[2] as well as of rise of commercial towns like Palmyra and Alexandria,[3] and of the visit of Trajan in the Persian gulf. The relation of Parthians with the contemporary ruler too should not be judged on the merit of Romano-Parthian relations. The rise of Parthian power was not as detrimental to the cause of Indian commerce, as it was in case of Roman commerce. As a matter of fact, they were one of the intermeditaries of Indian commerce on land, as Arabs and Egyptians were on sea.

During the predominence of Śaka-Pahlava power in India, as we note from the *Periplus*, much of the commodities from China, Iran and Afghanistan were coming to India and were being exported to Rome and other Mediterranean countries through the mouth of the Indus. [4] In the chinese *Annalas* there is clear indication that the Parthians cut off communication

1. *Commerce between Roman Empire and India*, pp. 296–298.
2. We shall examine the merit and significance of this embassy later.
3. Wheeler's estimation of Alexandrian role in the development of Indo-Roman land-trade and on the monetary system of the Kuṣāṇas is not convencing. Alexandria's significance in Indo-Roman trade was confined to sea-route only. There is no evidence that any Alexandrian mint-master ever visited the court of Kuṣāṇa rulers. See for his estimates on Alexandria, *Rome beyond the Imperial Frontiers*, pp. 200–202.
4. *Periplus*, 38–39; *Rome beyond the Imperial Frontiers*, p. 183.

between China and Rome, [1] but there is not even the slightest indication that they could stop Indians to send Chinese goods to Rome, which they were exporting through Barbaricum, Patala and Bharukaccha.

Thus, the fact remains that all the Roman efforts against Arabs, Sabeans, Parthians etc. were more directed to open direct routes of commerce between Rome and India on one hand and between Rome and China on the other than to produce any initiative influence on the monetary systems of Indian kingdoms, particularly of the Kuṣāṇas.

But, though the initiative was not from the side of the Romans, perhaps it was the international market situation, which made Kuṣāṇas tempted to issue gold coins. Romans too, perhaps were following the trends of that situation, hence there came some amount of uniformity among the currency systems of the Kusāṇas as well as of the Romans. It seems that the international [2] market situation suffered a certain degree of inflation, particularly in the second and the third centuries A. D. This change in the situation produced its effect both, on the Roman, as well as on the Kuṣāṇa coinage. The Kuṣāṇa authorities solved this difficulty by maintaining their *dīnāra* at a constant weight but in course of time they debased the quality of the gold. The Romans, however, maintained the quality of the aurius, but progressively reduced its weight. [3]

In the Tamil region gold was imported [4] in the shape of coins by the Roman traders. They were in great need of the commodities produced in the Tamil region and for that they had no adequate commodities. To meet this exchange position they imported Roman gold, which produced a very detrimental effect on the Roman economic and financial

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1. *China and the Roman Orient*, p. 42.
2. *J. N. S. I.* Vol. XXII pp. 63-64.
3. Ibid., Vol. XXII, pp. 63-64.
4. *Oanarpuram*, 343; Supra., p. 91.

position. But the sitution, as it seems, was presumably quite adverse so for the exchange position between the Roman traders and the traders of the Kuṣāṇa kingdom was concerned. The *Periplus* shows that in the North-West Indian ports the import list exceeded the export list of goods.[1] The traders of the North India were in the need of importing Roman goods, particularly in the markets of Gandhāra and Takṣaśilā, from where Roman commodities have been discovered,[2] but they had probably very little commodities demanded by the Roman traders. It may, therefore, reasonably be presumed that to acquire such commodities from the Roman traders, they might have requested the Kuṣāṇa emperors to issue gold coins having adequate exchange value and standard to meet their exchange difficulty, particularly in relation to their trade in Roman goods. This demand was adequately met with by the Kuṣāṇas, for their issues in gold were conveniently acceptable to Roman traders.

The problem to determin the source of Kuṣāṇa gold is difficult one, and the information available in this connection is far from satisfactory to arrive at any definite conclusion. Besides the local sources,[3] much gold was brought to the Kusāna kingdom from the Oxus region Oxus region occupied an advantageous position for procuring gold from places outside the Kuṣāṇa empire. There gold was brought not only from Scythia (the part of South Russia between the Carpathians and

1. *Periplus*, 38–41 pp. 286–287.
2. *Rome beyond the Imperial Frontiers*, pp. 186–191.
3. The traces of ancient gold workings are found in Mysore, Hyderabad and Madras. J. Marshall, *Taxila*, Vol. II. p. 620. Gold was also procured in rich quantity from the river beds, particularly from the Indus. Strabo, *Geography*, XV. I. 69, *Political History of India*, p. 241. Ancient deposits of gold were found in the mountains near the country of Sopeithes, in the west of Jhelum in the Punjab. Strabo, *Geography*, XV. I. 30. According to Herodotus the desert tract to the east of the Indus was also rich in gold. *Herodotus*, III, 94, 98 ; *Ancient India as described in Classical Literature*, p. 8; *Social Rural and Economy*, p. 219.

Caucasus), but also from the Ural and the Altai regions. [1] Some western scholars have suggested that the Kuṣāṇa gold coins were minted of gold received by way of trade from the Roman traders. [2] We shall presently examine the significance of the Roman coins imported into the Tamil region. [3] In view of the absence of information about the balance of trade between the North and the South India, the potentialities of the suggestions of the scholars cannot be worked out. G. L. Adhya has observed that the Kuṣāṇa *dinūra* was not a reminted issue of the aureus, but a coin made independently. [4] According to his opinion the Roman coins, whether of gold or any other metal, found in the Northern India are very few as compared to those in the South, because of the difference in the nature of foreign trade conducted in those two regions. In the South India goods from the western world were brought for local consumption but in the North it was mainly transit trade that passed through the Kusāṇa realm. [5] As the participants in this trade were of diverse nationalities there was not much possibility of the coins of any particular country flowing into the Kuṣāṇa treasury as custom charges or otherwise. [6] It is,

1. *Early Indian Economies*, p. 180. The legend about the gold-digging ants is connected with the import of gold into India by some aboriginal tribes of ancient India. *Herodotus*, III. 102; Strabo, *Geography*, XV. I. 37; Arrian's *Anabasis*, XV. 6; *Pliny*, XXX. 36. 66. Gold-digging ants are mentioned in the Mbh. Sabhā, 52, 10 as *paipīlika Greeks in Bactria and India*, pp. 106–108. Gold was brought by the ancient Indian gold-seekers from Suvarṇabhūmi. Supra, pp. 107–108. *Social and Rural Economy*, p. 219.
2. Cunningham, *Coins of the Indo-Scythians*, p. 38, *Indian Coins*, pp. 17–18; *Rome beyond the Imperial Frontiers*, pp. 169–170; *Early Indian Economies*, p. 180.
3. Infra, pp. 187–192.
4. *Early Indian Economies*, pp. 125–136, 181, 185.
5. Ibid., p. 181.
6. Ibid., p. 181, For a different view see J. Kennedy, 'The Secret of Kaniṣka.' *J. R. A. S.* 1912, pp. 665–688.

however, reasonable to presume that as people of many countries and many religions participated in the silk-trade, passing through the Kuṣāṇa dominions, the Kuṣāṇa rulers had to issue gold coins bearing distinctive marks.

Such coins of the Kuṣāṇas were readily acceptable to the merchants of different countries not only because they had their symbols, deities and legends, but also because of their intrinsic value. It may be pointed out that normally the Kuṣāṇa gold coins were following the international standard of gold currency so far as their weight standard and the gold content is concerned. In this context it may be pointed out that G. L. Adhya presumes that the Kuṣāṇas coined no silver because the silver currency was debased during the reign of the Śaka ruler Azes II and that of his Parthian Successors to such an extant that the Kusāṇas had no other option but to change the coin standard to avoid financial chaos and re-establish credit. [1] But though they changed the weight standard, there is no ground to presume that the silver issues of the Indo-Greeks and the Śakas were not found useful in the time of the Kusānas in the economic life. On the contrary, as suggested by A. Cunningham, the previous silver currency was found so useful that the Kusāṇas found no scope to introduce a new system of silver currency to supersede not only the silver coinage of the foreign rulers in India, but also the native *kārṣāpṇa* system of coinage. [2] It may be pointed out that those silver coins of their predecessors, the Greeks and the Śakas, were in the conformity of the international market situation and their debasement was also mainting the workable ratio between gold and silver, [3] and Kuṣāṇas had to adjust the weight standard of their *dīnāra* to the silver coins current in their realm.

The *Periplus* indicates that a large number of Roman gold and silver coins were imported into the market-towns of

1. *Early Indian Economics*, p. 179.
2. *Coins of Indo-Scythians*, pp 20–21.
3. Ibid., p. 23.

Barygaza, Muziris and Nelcynda. [1] The import of these coins in the markets of Muziris and Nelcynda, however, was in a greater quantity than Barygaza. E. H. Warmington commenting on this fact remarks that bringing money to the Chera kingdom was much more profitable than the import of imperial wares into that kingdom. [2] The Tamil poems of the 'Sangam Age' (earlier Christian eras) [3] contain references to the *yavanas* importing gold into Muziris and other ports of the Tamil land. [4] Since 1775 sixty eight finds of Roman gold and silver coins have been reported from the Tamil region; this fully corroborates the literary evidence. [5] It may be indicated here that the literary evidence quite clearly shows that the imported gold coins were brought to India in exchange of pepper. There is however a great deal of controversy regarding the economic significance of these coin hoards. [6]

Pliny and Tacitus have stated that the drain of Roman currency into India was in exchange of its commercial products. [7] But according to E. H. Warmington the eastward movement of Roman money took place in two forms; merchants

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1. *Periplus*, pp. 30, 49, 56
2. *Commerce between Roman Empire and India*, pp. 276–277.
3. *Colas*, p. 30.
4. Kannakasabhai Pillai, *Tamils Eighteen Hundred Years Ago*, pp. 25–27.
5. *Rome beyond the Imperial Frontiers*, pp. 164–166; See also, P. L. Gupta, *Roman coins from Āndhra Pradesh*, pp. 40–53.
6. *Commerce between Roman Empire and India*, pp. 274–277; *Periplus*, pp. 192–193, 219–220.
7. Pliny remarks 'in no year does India drain us of less than 550,000,000 sesterces giving back her own wares, *Pliny*, XII 41. Likewise is the complaint of the Empbror Tiberius to the Roman senate stating that 'How are we to deal with the peculiar articles of faminine vanity and in particular with that rage for jewels and precious trinkets, which drain the empire of its wealth, and sends in exchange for babuls, the money of the common wealth to foreign nations. Tacitus, *Annals*, III. 53.

carrying on large transactions with foreign countries found gold coins a necessity for external commerce, while the silver coins were essential for small exchange. And thus much of the Roman money was taken to India by Roman subjects in order to buy up in bulk the commodities that they were unable to get by exchanging imperial products. But besides this natural condition of wholesale trade there was a 'deliberate exportation of Roman money to India to create a Roman currency there.' [1]

The reasons for such 'deliberate exportation' has been further explained by Warmington, thus : [2]

1. In India there was a dearth of commercial coinage, particularly in the dominion of the Śakas, where coins of Apollodotus and Menander were current even during the earlier centuries of the Christian era.

2. Tamilians, whose coins were made of base metals, and were of little exchange value, allowed Romans to introduce their own coinage of gold and silver (with a view probably to facilitate their international commerce).

The view of there having been a dearth of commercial coins in the Śaka territory is ill founded and the statement of the *Periplus* that the coins of Apollodotus and Menander were current in the Śaka territory is vague and misleading. [3] The absence of the coins of these two kings among the archaeological finds of this region and the abundance of silver and copper coins of the Śakas in that territory, however, is not indicative of such a dearth. It is also note-worthy that though the *Periplus* has mentioned Barygaza as the port where gold and silver coins were particularly imported by Romans, there is no numismatic evidence to corroborate it as no hoard of Roman coins has been found as yet near about Barygaza. According to the map of Wheeler, Barygaza has yielded only one Roman coin and that too belongs ot a time later than that

1. *Commerce between Roman Empire and India*, p. 274.
2. Ibid., p. 277.
3. *Indo-Greeks*, pp. 68-69.

of the *Periplus*. [1] Warmington has also argued that the reason for the absence of Roman silver coins in the north-west of the Cheras is that the 'Sakas coined silver, and Andhras also helped their own issues of lead and copper by issues of silver, importation of which was thus found by the Romans to be atleast unnecessary; what they did construction and exchanged was perhaps melted down and then reissued by Andhras and Śakas who coined no gold.'[2] Now, if the main purpose of the import of Roman coins was to facilitate commercial transactions how can one believe that Āndhras melted them. Such an act would defeat the very purpose of the currency, thus exchanged. Even Warmington is not consistent in maintaining his view that there was a dearth of commercial currency in the Śaka territory. In one place he presumes the dearth of commercial coinage in Śaka territory, [3] and elsewhere remarks that there was no such dearth. [4] Thus, he himself finds it difficult to confirm the statement of the *Periplus* concerning the 'so called dearth of commercial coins' in Barygaza. The other point about the Śakas and the Āndhras melting Roman coins imported into Barygaza is also based on conjectures. Of course, the design of the coins of Nahapāna was influenced by the Roman coins, as their Greek legend suggests, [5] but the fact of melting is not properly attested. Again, if it is accepted that these coins were melted, we must admit that the Roman coins imported in to Barygaza had no currency significance in the Indian markets, particularly in the Śaka and the Āndhra territories.

In the story of Appollonius it is stated that for the traders

1. According to Wheeler's assignment, this coin belongs to 2nd century A. D. The date and the identification of the other coin found near about Barygaza is not certain. *Rome beyond the Imperial Frontiers*, p 195.
2. *Commerce between Roman Empire and India*, pp. 288–289.
3. Ibid., pp. 274–75.
4. Ibid., pp. 288–89.
5. *BMC*, *Āndhra*, pp. C–XCIV; *Commerce between Roman Empire and India*, p. 290.

of Rome and Parthia who came to India, it was necessary to buy things in the Indian markets with the 'Indian stuff of archaic and black brass.' [1] This really refers to the indigenous currency of cheap metal circulating in Indian markets. Now if this statement of Apollonius is to be believed, which appears quite reasonable, then all the foreign traders of Parthia and Rome had to purchase or exchange the native currency with their precious metal currency of silver and gold for purchasing the Indian commodities for which they had no adequate exchangeable commodity. This presumption may be confirmed from a passage of the *Periplus* which records that at Barygaza such exchanges of coins were actually made between Roman and Indian traders. [2]

In such exchanges, according to the *Periplus*, the Romans were in an advantageous position. [3] Warmington holds that Romans exchanged their coins of gold and silver with the coins of the Śakas and the Āndhras, which were not of precious metals. [4] But we do not know in what way the Ramans were in an advantageous position. As they exchanged their gold and silver coins with the indigenous currency of base metals, one can presume that the token base metal coins had more purchasing power in Indian markets than the Roman gold and silver coins of the same weight. Further, it cannot be said that gold and silver as metals were not known to Indians

1. Philostratus, *Appollonius of Tyna*. II. 7.
2. *Periplus*, 44.
3. Ibid., 49.
4. *Commerce between Roman Empire and India*, pp. 277–278; G. L. Adhya suggests that at Barygaza there was no exchange between the coins of the Śakas and the Āndhras and the Roman aurei. But to justify the statement in the *Periplus* (49), that gold and silver coins which were brought to Barygaza from the west were exchanged for the local issues at a profit he believes that the Roman denarius were buying more than it was possible to obtain with the debased silver coins of Nahapāna and thus the former were in an advantageous position, when they were exchanged against the Śaka coins. *Early Indian Economies*, p. 186.

or that their bullion value was not fixed in the Indian markets. The imitation of the design of Roman coins by the coins of the Śakas, particularly of Nahapāna, though doubtful, may be taken as an Indian attempt to standardise the type and weight of their coins in relation to Roman coins for facilitating the exchange of currency with the Roman traders. The equality of the weight of Roman aurei and Kuṣāṇa *dināra* may suggest the same significance. This interpretation leads us to the following conclusions :—

1. Exchange of currency in India was a necessary condition for Roman traders for those purchases for which they had no adequate exchangable commodity.

2. As the Indian currency, which the Romans obtained through exchange, had a limited use, confined to the Indian markets only, they consumed all of it for purchasing goods in India. This may explain the absence of Indian coins among the finds of excavated Roman sites. Had the use of Indian coins been wide in the international market they would have been found outside India also.

3. For Indians the value of foreign money thus obtained from Roman traders was merely in the form of bullion; hence these coins were either melted for making ornaments or were hoarded as gold and silver bullion.

It is strange that though out of seventy eight finds, fifty-seven finds are from the south of the Vindhya and twenty-nine from the Tamil region, no port below Nelcynda in the time of the *Periplus* has been mentioned as importing Roman coins.[1] According to Warmington, in the Tamil region, where there was absence of gold and silver currency, no exchange took place between the currencies of the Romans and the Tamilians. Hence, beside the natural exchange, a portion of the Roman gold and silver currency was imported as commodity to be purchased by local traders for the introduction of a gold currency in the native states.[2]

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1. *Commerce between Roman Empire and India*, p. 278.
2. Ibid., pp. 277–278.

But, whatever may be the amount of currency imported in India as commodity, it is difficult to agree with the view of Warmington that an alien currency was imported by the Tamilians for use as coins in their own country.

Warmington further suggests that the precious coins brought by Romans were not recognised as currency by the ruling princes of the Cholas and the Pāṇḍyas. If the exchange or purchase of Roman coins was the concern of local merchants alone and the state had no hand in the matter, then it would follow that the Tamil traders purchased the Roman gold and silver coins for hoarding them as bullion, being fully conscious of their metallic value. Wheeler also supports this view. While expressing doubts about the role of Roman coins in an alien economy, he acceptes that most of these imported coins were employed as currency but could have been used only as bullion to be weighed out in exchange for goods or silver and gold ornaments.[1]

Numismatic evidence is also available to show that the Tamilians accepted Roman gold and silver coins from the alien traders only as bullion. We find that during the reign of Nero, Roman traders had to take particular pains to collect gold coins of earlier Roman kings, which had high gold content for utilising them to purchase goods in the Indian markets for, Nero had debased the Roman currency during his regime. But after sometime, when old and genuine Roman gold coins were not available to Roman merchants for the use in the Indian markets, their trade with India dwindled in volume. This fall in trade is to be noted especially when Vespasian imposed[2] restrictions on the export of gold, probably on public complaint of which we get a glimpse in Pliny's famous regret.[3] This fact is fully confirmed by the numismatic and archaeological evidences.

In India also the kings, as we have stated above, disapproved

1. *Rome beyond the Imperial Frontiers*, p. 167.
2. Ibid., p. 166.
3. Pliny, XII. 41; VI. 101.

the use of Roman coins as currency. As minting at that time was under state-control, government took serious note of all attempts of Roman traders to circulate their coins in Indian markets as detrimental to the national economy. In fact, to ward off such attempts the government did resort to the mutilation of Roman coins.[1] The gold coins of Rome imported in India, as Wheeler remarks, 'were liable to be pierced for suspension or mutilated by a cut across the obverse.'[2] In the Tamil region, where the Romans had a trade-colony, significantly enough, we do not find a single coin bearing any sign of Roman imitation. In the later half of the first century and in the second century A.D. as the numismatic evidence shows, a change seems to have come in the nature and the scope of Indo-Roman trade. According to Sewell, after Vespasian the Romans began to give preference to markets of Saurāṣṭra. Thereafter the approach of Roman traders to Tamil land was rare.[3] Warmington, while admitting the partial cessation of Roman trade in Tamil land, believes that the change was not in the nature or scope of trade but in the medium of exchange. He suggests that after Veapasian, when the export of gold was stopped, the exchange of goods was carried on between the Tamilians and the Romans on the basis of barter.[4] But, it is difficult to believe that if the Roman traders had created a system of gold and silver coins for the exchange of goods in Tamil land, it could have been stopped all too suddenly and that the Tamil traders could have reverted back to the barter system and despensed with all coinage in their transactions.

We can thus conclude that gold and silver Roman currency in Indian markets had no value except as bullion.

1. *Numismatic Chronicle*, 3rd series, XVIII (1898), p. 320; *Rome beyond the Imperial Frontiers*, p. 169.
2. Ibid., p. 166; *J. R. A. S*, 1904, pp. 614–615.
3. Ibid., 1904, p. 615–17.
4. *Commerse between Roman Empire and India*, pp. 393–94; *Early Indian Economics*, p. 134.

CHAPTER IX

WEIGHTS AND MEASURES

Weights have a long history, older than that of money. Excavations at the Indus sites have disclosed various kinds of weights used in India during the 3rd millenium B. C. Though the origin of Indian weight-system was independent, its relationship with Mesopotamian and Egyptian weight-systems is within the range of probability.[1] From the point of view of accuracy, the Indus weights are remarkable; the margin of error in this system seems to be very narrow.[2] Vedic literature undoubtedly suggests the existence of a system of weights, though their use and significance are not properly described.[3] The *Vasiṣṭha Dharmasūtra* describes weights as essential household effects and recommends that their accuracy should be maintained by the kings.[4] Falsification of weights and measures was recognised as a cognizable offence. Vasiṣṭha, Kauṭilya, Manu and Yājñavalkya enjoin upon the state to take particular pains for guarding the accuracy of weights and measures against criminal attempts at their falsification.[5] Special officers like *pautavādhyksha* and *sansthādhyksha* were appointed by the Mauryan Government to examine and regulate weights and measures periodically, after every four to six months.[6] References to cheating through false weights and measures are seen in the *Dīgha Nikāya*[7] and in the *Āpastamba Dharma*

1. E. Thomas, Ancient Indian Weights, *Numismatic Orientalia*, pt. I. pp. 1–2; P. Nath, *A study in the Economic Condition of Ancient India*, pp. 71–72.
2. *The Indus Civilization*, p. 61.
3. *Vedic Index*, I. p. 516; II. p. 43.
4. *Vasiṣṭha Dharma Sūtra*, XIX. 23.
5. Ibid., XIX. 23; *Artha.*, II. 19. 51; *Manu.*, VIII. 403; *Yāj.* II. 240.
6. *Artha*, II. 19. 51.
7. *Dīgha Nikāya*, I. pp. 19. 64.

sūtra.[1] Āpastamba, Buddha and Nāgasena all condemn one who cheat others by using false weights and balances.[2]

The Indus weights were made of different kinds of stones such as 'chert, limestone, gneiss, steatite, slate, chalcedony, a black and white schist.'[3] Their shape and size also varied according to their respective weights and use. (Pl. VII. Figs. 1–8). The practice of using stone weights continued during the time of the Mauryas. Kauṭilya recommends that weights should be made of iron or stone (of Māgadha and Mekala) or of any substance which would neither contract when wet, nor expand under the influence of heat.[4]

Probably the weights were manufactured under State-control and were sold in the shops. Kauṭilya presents a price-list of different kinds of weights.[5] Regarding the manufacture of cubic measures, Kauṭilya says that they should be made 'of dry and strong wood so that when filled with grains, the conically heaped up portion of the grains standing on the measures is equal to one fourth of the quantity of the grains (so measured); or the measures may also be so made that a quantity equal to the heaped up portion can be contained within the measure.'[6]

But, though every care was taken to maintain the accuracy of weights, there was always a possibility of some error in them. To guard against this, there was a practice to add some handful of grains to the measured quantity. This practice was called *hastapūrana.*[7] 'With regard to the measurement of wine, flowers, fruits, bran, charcoal and slaked lime, twice the quantity of the heaped up portion (i.e., one fourth of the measured quantity) was to be given in excess.'[8] Sometimes this difference (*tulāmānāntara*) was taken by the state.[9]

1. *Āpastamba Dharma Sūtra,* II. 6. 19.
2. Ibid., II. 6. 19. *Dīgha Nikāya,* I. p. 5; *Milinda.* Vol. II. p. 121.
3. *The Indus Civilization,* p. 61.
4. *Artha.,* II. 19. 11.
5. Ibid., II. 19. 49–50.
6. Ibid., II. 19. 40–41.
7. Ibid., II. 19. 15–11.
8. Ibid., II. 19. 11.
9. Ibid., II 15. 11.

In cubical measurement, the margin of error has been indicated by Kauṭilya as follows - [1]

In one *parimāṇī* or *droṇa* —½ *pala*.
In one *tulā* —1 *karṣa*.
In one *āḍhaka* —½ *karṣa*.

On principle, the difference upto the margin stated above was not considered a crime. The punishable margin of error was a little higher i.e., in the case of *parimāṇī droṇa, it was* 1 *pala*, in case of *tulā*, 2 *karṣa* and in case of *āḍhaka*, 1 *karṣa*. [2]

The weights of the Indus culture 'fall into a well defined system unlike any other in the ancient world.' [3] The system used was binary in case of the smaller weights and decimal in the case of larger ones, the succession being in the ratios 1, 2, 4, 8, 16, 32, 64, 160, 200, 320, 640, 1600, 3200, 6400, 8000, 12800, and that the unit weight had the calculated value of 0.8565 gramme. [4] The ratio, which was maintained by the Indus trader was adopted in the later period to some extent and the number 16 became deep-rooted in the numismatic ratios. [5] In the case of the decimal system of weights, the fractional ratios were based on 3. [6]

It is, however, strange that though the ratio of the Indus weight-system influenced to some extent the monetary system of ancient India, its influence on post-Harappan weight system is difficult to recognise.[7] In the Vedic times, *kṛṣṇala* and *manā* or *mānā* were the two denominations of weights. [8] The relationship of Vedic *manā* with *kṛṣṇala* is difficult to determine.

1. *Artha*, IV. 2. 9.
2. Ibid., IV. 2. 11.
3. *The Indus Civilization*, p. 61.
4. *Early Indus Civilization*, p. 103.
5. *B. M. C. Ancient India*, p. CLIX.
6. *The Indus Civilization*, p. 61.
7. A large number of terracotta weights have been unearthed from various historic sites of Northern India. But, they do not seem to follow any definite ratio.
8. *Vedic Index*, I. p. 185; II. p. 505.

The ratio of weights of post-Vedic literature can be explained as follows :

8 *trasreṇus*	=	1 *likṣā*.
3 *likṣās*	=	1 *rāja sarśapa*.
3 *rāja sarśapas*	=	1 *gaura sarśapa*.
6 *gaura sarśapas*	=	1 *yavamadhya*.
3 *yavas*	=	1 *kṛṣṇala*.

Obviously *trasreṇu* and *likṣā* are the pedantic and purposeless denominations of weights. The significance of *rāja sarśapa, gaura sarśapa* and *yava* was also very limited. For all practical purposes, the fundamental unit of weight was perhaps the *kṛṣṇala*. *Raktikā* and *guñjā* were perhaps equal in weight and may be considered as similar to *kṛṣṇala* also. *Raktikā* held such a prominent place in the system of weight of ancient India that later sanskrit writers named it as *tulābīja*.

It is interesting to note that though *kṛṣṇala* in the weight scheme of Manu and Yājñavalkya was accepted for weighing gold as well as silver, its value and weight differed considerably. Thus for gold, the scheme of weight according to Manu and Yājñavalkya was as follows : [1]

5 *kṛṣṇalas*	=	1 *gold māṣa (suvarṇa māṣa)*.
16 *māṣas*	=	1 *suvarṇa*.
4 *suvarṇas*	=	1 *pala*.

This scheme is also followed by Yājñavalkya. [2] Manu however includes *dharaṇa* in the scheme of gold weights. According to him 10 *palas* equated 1 *dharaṇa*. [3] The weight of silver denominations, however, was different than the scheme of gold. According to Manu and Yājñavalkya :

2 *kṛṣṇalas*	=	1 *raupyamāṣa*.
16 *raupyamāṣas*	=	1 *dharaṇa* (according to Yājñavalkya).[4]
16 *raupyamāṣas*	=	1 *purāṇa* (according to Manu).[5]

Further, Yājñavalkya equates 10 *dharaṇas* with 1 *pala*. [6]

1. *Manu*., VIII. 134.
2. *Yāj*. I. 363–64.
3. *Manu*., VIII. 136.
4. *Yāj*., I. 364.
5. *Manu*., VIII. 136.
6. *Yāj*., I. 365.

One notable difference between the gold and silver weight-systems, as described in the *Manusmṛti*, is that gold *dharaṇa* is a heavier denomination (i.e. 3200 *kṛṣṇala*) than a silver *dharaṇa* (ie. 32 *kṛṣṇala* only). Though Kauṭilya like Manu and Yājñavalkya has two separate systems of weight for weighing gold and silver, his scheme differs considerably from them. In his scheme for gold weight,[1] the lowest unit was *dhānyamāṣa*, which may be taken as equal to 1½ *yavas*. Thus 3 *yavas* of Manu and Yājñavalkya or 2 *dhānyamāṣas* of Kauṭilya constituted 1 *guñjā* of Kauṭilya or 1 *kṛṣṇala* of Manu and Yājñavalkya.[2] Therefore :

5 *guñjās* (Kauṭilya) or 5 *kṛṣṇalas* (Manu & Yājñavalkya) or
10 *dhānyamāṣas* = 1 *suvarnamāṣa*.
16 *suvarṇamāṣas* = 1 *suvarṇa* or 1 *karṣa*.
4 *karṣas* or 4 *suvarṇas* = 1 *pala*.

For weighing silver, weights were to be ratioed as :[3]

88 *gaurasarśapas* = 1 silver *māṣa*
16 silver *māṣas* or 20 *saibya* seeds = 1 *dharaṇa*.

A comparison of the above tables shows that while Kauṭilya's system of weights for measuring gold corresponds with those of Manu and Yājñavalkya, there was considerable difference in the system of weights for silver. In Manu and Yājñavalkya, 1 *raupya māṣa* constitued 36 *gaura sarśapas*, while 1 *raupya māṣa* of Kauṭilya constituted 88 *gaura sarśapas*. But though the weight of *raupya māṣa* of Kauṭilya was heavier than the same *raupya māṣa* of Yājñavalkya, its ratio with *dharaṇa* was the same i.e. 16 *raupya māṣas* = 1 *dharaṇa*.

Apart from this scheme of weights of gold and silver, Kauṭilya has recommended the making of weights of *māṣa*, *suvarṇa*, and *dharaṇa*, in the following series :

½ *māṣa*, 1 *māṣa*, 2 *māṣas*, 4 *māṣas*, 1 *suvarṇa*, 2 *suvarṇas*, 4 *suvarṇas*, 8 *suvarṇas*, 10 *suvarṇas*, 12 *suvarṇas*, 30 *suvarṇas*, 40 *suvarṇas* and 100 *suvarṇas*.[4]

1. *Artha.*, II. 19. 2.
2. *Manu.*, VIII. 134; *Yāj.* I. 363.
3. *Artha.*, II. 19. 5.
4. Ibid., II. 19. 9.

A similar series of weights was recommended for *dharaṇa* also. [1]

For diamond, the lowest unit of weight was rice (*taṇḍula*) and the heaviest unit was *dharaṇa* known as *vaidūryadharaṇa*. 20 grains of rice constituted 1 *vaidūryadharaṇa*. [2]

Though from Kauṭilya's *Arthaśāstra* we infer that there were balances for heavy weights, [3] our information about heavy weights is very meagre. Perhaps, for measuring grains and liquids there were measuring pots. That is why we see all law-givers totally neglecting the consideration of heavy weights. Kauṭilya also, after giving the scheme of heavy weights, describes the method of making the cubic measures and not the system of heavy weights. It is quite possible, just as it is today, that though the weights were fundamental units, cubic measures were made to weigh grains etc. according to the standard of weights, for the sake of convenience.

From various sources the sequence of heavy weights for cubic measures may be understood as follows :

4 *palas* or 16 *karṣas*	=	1 *kuḍava* or 1 *añjali*. [4]
4 *kuḍavas*	=	1 *prastha*. [5]
4 *prasthas*	=	1 *āḍhaka*. [6]
4 *āḍhakas*	=	1 *droṇa*.

But though the above scheme of weight is accepted by Caraka and Kauṭilya, there is considerable difference between them regarding *droṇa*. In the *Arthaśāstra*, there are as many as four types of *droṇas* (*āyamī*, *vyāvahārika*, *bhājanī*, and *antaḥpurabhājanī*). [7] Of these, the first type of *droṇa* (*āyamī*) was

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1. *Artha*, II. 19.
2. Ibid., II. 19.
3. Ibid., II. 19. 12-17.
4. *Aṣṭādhyāyī*, V. 4. 102. *Kuḍava* also occurs in the *Caraka Saṁhitā*, *Kalpasthana*, XII, 94.
5. *Artha.*, II. 19, but not in Pāṇini. Dr. V. S. Agrawala however equates *prastha* with *kulija* of the *Aṣṭādhyāyī*, V. 1. 55. But it is his guess. *Pāṇinikālīna Bhārata*, p. 244.
6. *Artha.*, II. 19; *Caraka Saṁhitā*, XII. 94; *Aṣṭādhyāyī*, V. 1. 53.
7. *Artha.*, II. 19. 32-35.

the standard one (of 200 *palas*) of the Mauryan times.[1] But, by the time of Caraka, the weight of *droṇa* went up to 256 *palas*.[2] This increase surely would have affected the other weight denominations also. Some more weights, heavier than *droṇa*, were also prevalent in ancient India. Their ratio was however not binary as was in the case of *kuḍava*, *prastha*, *āḍhaka* and *droṇa*. From Caraka and Kauṭilya we know that weights heavier than *droṇa* were generally calculated on the basis of *droṇa*. Now, taking the standard weight of *droṇa* as 200 *palas*,[3] we may present the account of heavier weights as follows :

16 *droṇas*	=	1 *khārī*.[4]
20 *droṇas*	=	1 *kumbha*.[5]
10 *droṇas*	=	1 *bhāra*.[6]
200 *droṇas*	=	1 *vāha*.

For lineal measurements, the width of a finger (*aṅgula*) was the most natural and primary unit.[7] In the *Jātakas*, *Aṣṭādhyāyī* and the *Arthaśāstra*, we get the details of lineal measurement.

Like weights, there were same pedantic measures also such as *paramāṇu*, *ratharenu*, *likṣā*, *yūka*, *yavamadhya* etc.[8]

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1. *Pāṇinikālīna Bhārata*, pp. 244–45.
2. Ibid., p. 244.
3. The weights of other types of *droṇas* were like this—*vyāvahārika* of $87\frac{1}{2}$ *palas*, *bhājanī* of 175 *palas* and *antaḥpurabhājanī* of 162 *palas*. *Artha.*, II. 19. 33–35. Due to this difference in the weight of *droṇa*, their lower denominations like *āḍhaka*, *prastha*, *kuḍava* were also not similar.
4. *Aṣṭādhyāyī*, V. 1. 33; *Artha.*, II. 9. 37; *Mahābhāṣya*, V. 2. 73.
5. *Aṣṭādhyāyī*, VI. 2. 120; *Artha.*, II. 19. 38
6. *Aṣṭādhyāyī*, VI. 2. 38; III. 1. 119; *Artha.*, II. 19. 39.
7. *Jātaka*, VI. p. 341; *Aṣṭādhyāyī*, V. 4. 86; *Artha.*, II. 20. 6. According to the *Arthaśāstra* the middle most joint of the middle finger of a man of medium size may be taken to be equal to an *aṅgula*. *Artha.*, II. 20. 7. For the details about the *aṅgulamāna* see, Balram Srivastava, *Rūpamaṇḍana*, pp. 19–22.
8. *Artha*, II. 20. 2–7.

In the *Arthaśāstra* [1] the measures below *aṅgula* are described as follows :

8 *paramāṇus*	=	1 *ratharеṇu*
8 *ratharеṇus*	=	1 *likṣā*
8 *likṣās*	=	1 *yūka*
8 *yūkas*	=	1 *yava*
8 *yavas*	=	1 *aṅgula*

For measuring cloth etc. other lineal measurments such as *vitasti* [2] or *diṣṭi*, [3] *hasta* [4] and *kiṣku* [5] were commonly used. Their ratios may be given as follows : [6]

12 *aṅgulas*	=	1 *vitasti*
2 *vitastis*	=	1 *prajāpatya hasta*
32 *aṅgulas*	=	1 *kiṣku*.

Besides these natural measurements some mechanical devices were also introduced in ancient India. From Mohenjodaro [7] a broken specimen of measure on the decimal system (Pl. VII. Figs. 9–10) has been found. But probably, as E. Mackay has stated, no mechanism like steelyard was known to Harappans.[8] On some Takṣaśila and Ayodhyā coins steelyard has been represented. [9] Steelyard is also represented in one of the Amarāvatī reliefs.[10]

Due to the paucity of reliable data it would not be possible to say whether the above account of weights and measures represents for the whole of India of the period of our review or it had some regional variations. But the discrepancies in

1. *Artha.*, II. 20. 1–7.
2. *Jātaka*, VI. p. 339; *Aṣṭādhyāyī*, V. 2. 31.
3. *India as known to Pāṇini*, p. 255.
4. *Artha.*, II. 20. 13.
5. *Gaṇapāṭha*, V. 1. 157.
6. *Artha.*, II. 20. 10, 13, 15.
7. *Early Indus Civilization*, p. 103. Pl. XXIV. Fig. 9.
8. Ibid., p. 103.
9. Supra., p. 174.
10. Fergusson, *Tree and Serpent Worship*, Pl. LX, Fig. 1; Pl. LXXXIII, Fig. 1.

different systems, probably, indicate that different age and provinces followed different standards.[1] A. N. Bose surmises that the above mentioned weight and measure standards prevailed in the Gangetic valley in the centuries near about the Christian era.[2] It is also a very strange thing that though a large number of historical sites have been excavated in recent times, no weights and measures confirming the weight and measure standards of the books have been discovered.

It is however interesting that same weights of the Arthaśāstra such as *ādhaka* and *prastha* are mentioned in the Mathurā inscription of Huviṣka.[3] Other weight denominations *ghāṭaka* and *mallaka* mentioned in the same inscription, may be the verient or regional names of some weights of the *Arthaśāstra* or the *Smṛtis*.

The high antiquity of the Indian weight-system implies the existence of balances from very early times. In the Indus civilization the weighing scale was an important accessory for trade.[4] A few examples of scales found are of very ordinary pattern and consist of a bronze bar with suspended copper pans[5] (Pl. VII. Figs. 11-15). Such balances were used for weighing light or precious commodities. In later period, we find the depiction of a balance on a coin.[6] On the obverse of a oblong coin from Rajgir a pair of scales with a rod on the right side within raised border formed by the branches of the date palm is depicted. (Pl. VII. Fig. 16) A painting of Ajanta, represents a kind of light balance, which was useful for the traders in perfume

1. D. Barnett, *Antiquities of India*, p. 227.
2. *Social and Rural Economy*, p. 277.
3. *Select Inscriptions*, p. 147. *Social and Rural Economy*, p. 276.
4. Balances were so common in day-to-day exchanges that children in the Harappan age were apt to make their earthen play models of balances. *Early Indus Civilization*, p. 108.
5. The traces of the thread by which one of the pans was supported have been found. *Ibid.*, p. 103; *The Indus Civilization*, p. 61.
6. Ajit Ghosh, 'Rare Oblong coins from Rajgir,' *J. N. S. I.* Vol. I. Pl. III. Fig. 5.

(Gāndhika) [1] (Pl. VIII. Fig. 2). For heavy weights much larger and stronger beams and pans were used. Such beams and pans were probably made of wood, [2] and the weights [3] were suspended probably with ropes as is done even today, while weighing chaff or wood.

The ancient Indian name for the balance was *tulā*. [4] This word does not occur in the *Ṛgveda*. We cannot be sure, therefore, whether balances were in common use during the early Vedic age. The word *tulā* occurs for the first time in the *Vājasaneyī Saṁhitā*. Here the references to *hiraṇyakāra-tulā* suggest that the use of the balance was limited to light weights being meant chiefly for goldsmiths. But by the time of the *Śatapatha-Brāhmana* [5] the use of balances had become common in day-to-day life, and people had so much reliance upon the propriety and correctness of the balance that they recognized it as a positive factor in daily life. They adopted it as a part of the machinery of justice and included it in trials by ordeal (*divyapramāṇa*). According to Vasiṣṭha [6] balances were necessary objects for the household. In the time of Āpastamba the practice of falsifying the balance was a social crime. According to him a person using false balances (*kūṭa-tulā*) was to be barred from the *śrāddha* cremonies. [7] Buddha regarded cheatting through false balances and deriving profit thereby as a kind of *mithyā ājīva*. [8] Kauṭilya considered it to be the duty of the government to examine the balances of the traders periodically after every four months. [9]

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1. *Sārthavāha*, p. 240. Fig. 37.
2. *Early Indus Civilization*, p. 61.
3. In the Indus civilization some weights were to be lifted by rope or metal rings. *Indus Civilization*, p. 61.
4. Monier Williams, *Sanskrit-English Dictionary*, p. 139.
5. *Śat. Brā.* II. 2. 7. 33.
6. *Vasiṣṭha Dharma-Sūtra* 19. 23.
7. *Āpastamba Dharma-Sūtra*, 2. 6. 19.
8. *Dīgha Nikāya* 8. 2. 43. Vol. III. p. 136.
9. चतुर्मासिकं प्रतिवेधानिकं कारयेत् । *Artha.* II. 19. 51.

The same is the injunction of Manu but he recommends that the balances should be checked and examined after every six months. [1] Yājñavalkya seems to be more strict on this issue for he prescribes heavy punishment to those who make (*kūṭa-kṛta*) and use (*vyavahāra*) false balances. [2] In the *Milinda Pañho*, Nāgasena forbids the gift of false balances. [3]

Kauṭilya enumerates sixteen types of balances. Of these there were ten varieties of light balances with double scale-pans. [4] Beginning with a lever of six *aṅgulas* in length and of one *pala* weight in melallic mass there were ten types of balances with levers increasing successively by one *pala* [5] in the weight of their metallic mass and by eight *angula s* in their length. [6] According to this description the length and weight of balances can be tabulated as follows :

Type No.	*Length*	*Weight in metallic mass*
1	6 *angulas*	1 *pala*
2	14 ,,	2 ,,
3	22 ,,	3 ,,
4	30 ,,	4 ,,
5	38 ,,	5 ,,
6	46 ,,	6 ,,
7	54 ,,	7 ,,
8	62 ,,	8 ,,
9	70 ,,	9 ,,
10	78 ,,	10 ,,

These balances were used in all probability for weighing different kinds of commodities.

1. तुलामानं प्रतीमानं सर्वं च स्यात्सुलक्षितम् ।
षट्सु षट्सु च मासेषु पुनरेव परीक्षयेत् ॥ *Manu.*, 8. 403.
2. तुलाशासनमानानां कूटकृन्नाणकस्य च ।
एभिश्च व्यवहर्ता यः स दाप्यो दममुत्तमम् ॥ *Yāj.*, 2. 240.
3. *Milinda*, Vol. II. p. 121.
4. *Artha.*, II. 19. 12.
5. In Kauṭilyan weight system 4 *karṣa* or 320 *guñjā* or *raktikā* constituted 1 *pala*. Thus 1 *pala* constituted 6 *tola* and 4 *māṣa*. *Artha.*, II. 19. 3–4.
6. Ibid., II. 19. 12.

The heavy balances were of six types, Of these a balance was called *samavṛttātulā* with its lever 72 *aṅgulas* long and it weighed 53 *palas* in its metallic mass. Kauṭilya describes the making of different types of balances 'A scale-pan of 5 *palas* in the weight of its metallic mass being attached to its edge, the horizontal position of the lever (*samakaraṇa*), when weighing a *karṣa* shall be marked (on that part of the lever where, held by a thread, it stands horizontal). To the left of the mark, symbols such as 1 *pala*, 12, 15 and 20 *palas* shall be marked. After that, each place of tens upto 100 shall be marked. In the place of *akṣas* the sign of *nāndī* shall be marked.' [1]

The second type of heavy balance was called *parimāṇī*. It had a lever of 16 *angulas* and 106 *palas* of weight in metallic mass. On its lever marks for 20, 50, 100 etc. [2] were indicated. The weights of the public balance (*vyavahārikā*), servants' balance (*bhājanī*) and balance of the harem (*antahpura-bhājanī*) were 95, 90 and 85 *palas* respectively. [3]

Unfortunately the details given in the text above do not give us a clear idea of the construction and use of the different balances.

The heaviest type of balance was made of wood (*kāṣṭha*) with a lever eight cubits long. The lever had measuring marks and it was erected and fixed on a 'peacock-like pedestal.' Counterpoise weights were used in weighing heavy commodities. [4]

A weighing house is referred to in the *Mahā Nārada Kassapa Jātaka*. [5] From this *Jātaka* we can guess that weights were added gradually, one by one on the weighing scale and when the weights were placed, the end of the balance swang up. From

1. *Artha*, II. 19. 13–17. Cf. also Eng. Tr. by Shamasastry.
2. Ibid., II. 19. 18–19.
3. Ibid., II. 19. 23.
4. काष्ठतुला अष्टहस्ता, पदवती, प्रतिमानवती, मयूरपदाधिष्ठिता । *Artha*. II. 19.28.
5. *Jātaka*, Vol. VI. p. 119.

Yājñavalkya we know that it was the practice to draw a line on the wall of the weighing house to ensure accuracy in weighing. Weighing was complete and correct when the weights and the things to be weighed were on a level with the mark made on the wall at the weighing house. He refers also to people, who were experts in weighing (*tulādhāraṇavid*). [1]

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1. The above conclusion is based on the following verse :
तुलाधारणविद्भिरभियुक्तस्तुलाश्रितः ।
प्रतिमानसमीभूतो लेखां कृत्वाऽवतारितः ॥ *Yāj*. II. 100–102.

CHAPTER X

BUSINESS ORGANISATION

It is difficult to say whether the seals of the Harappans [1] were the private issues of the individual traders or the issues of the trade-corporations of the Harappans. Similarly it is not possible to guess whether their extensive trade was organised by the state or by their commercial guilds. Some scholars trace the origin of corporate life in the time of the *Ṛgveda.* R. C. Majumdar is of the opinion that the Paṇis of the Vedic times were well organised and in their organisation one may find the trace of the guilds mentioned in the *Jātakas.* [2] But as corporate activity in the economic life generally takes place during a late phase of a civilisation and is subject to certain peculiar opportunities and circumstances, the Ṛgvedic period would be too early a period for the origin of trade-guilds in India. The Ṛgvedic evidence about the Paṇis, though indicative of their trade influence on the society, [3] does not suggest the existence of guilds in them, on the contrary it indicates that their unity and organisation was more of military than commercial nature. They were organised more to protect their existence from the hostile and uncommercial *ṛṣis* than to safeguard their business interests. [4] The term '*gaṇa*' of the *Bṛhadāraṇyakopaniṣad,* according to R. C. Majumdar 'furnishes a clear instance of the corporate activities in the economic life in ancient India.' [5] But the study of relevent passage in the text does not seem to indicate any secular [6] import. His

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1. *Indus Civilization*, p. 91–92.
2. R. C. Majumdar, *Corporate Life in Ancient India*, p. 2; R. K. Mookerji, *Local Government In Ancient India*, p. 43; H. Chakraborti, *Trade and Commerce of Ancient India*, p. 312.
3. Supra., pp 17–20.
4. Supra., pp. 19–20.
5. *Corporate Life in Ancient India*, p. 2.
6. According to R. S. Sharma, the term *gaṇa* in early and later Vedic literature is used in the sense of tribal organisation. *Political Ideas and Institutions in Ancient India*, p. 82.

conclusions are based on the commentary of Śaṅkarācārya,[1] who has explained the relevant passage in accordance with usage and convictions of his own times. His identification with *gaṇas* of *vaiśa* is not very convincing.

Similarly the words *'śresṭhin'* or *'śraisṭhya'* or *'śresṭhā'* occuring in the *Brāhmaṇas*[2] hardly show any connection with the later word *'śresṭhin* or *seṭṭhi.* Of course Sāyaṇa has taken Śresṭhi of *Aitareya Brāhamaṇa* for *dhanapatiḥ* but his interpretation seems to be based on the meaning prevalent during his period. The passage *śresṭhī pūtre rocayatyeva yaṃ Kāmayate tam* has been translated by Martin Haug as 'thus it comes that a chief favours with a draught from his goblet whom he likes.'[3] R. K. Mookerji may be right in describing *śresṣtin* as a chief having great social power,[4] but the economic significance of the word is very doubtful. As a matter of fact in all the Vedic passageges the word 'sresṭhin' is used in the ordinary sense of a chief or a person of superior rank and do not stand for the chief of an economic guild.

As has been pointed out,[5] the bulk of the Vedic society was composed of the Vaiśya, whose numerical superiority over the other two twice born classes, the Brāhmanas and the Kṣatryas, was a real fact. It has also been pointed out that in the social order, the Vaiśya class stood third and was thus inferior to the Brāhmaṇas and the Kṣatriyas. The people of this class were performing many duties such as cattle-breeding,

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1. *Corporate Life in Ansient India*, p. 2. Śankarācārya explains "स नैव व्यभवत, स विशमसृजत, यान्येमानि देवजातानि गणश आख्यायन्ते (*Vṛhadāranyakopnishad*, 1. 4. 12.) as क्षात्र सृष्ठोपि स नैव व्यभवत् कर्मणे मश तथा न व्यभवत् वित्तोपार्जयितुरभावात्। स विशमसृजत कर्मसाधनवित्तोपार्जनाय। कः पुनरसौ विट्? यान्येतानि देवजातानि, स्वार्थेनिष्ठा य एते देवजातिभेदा इत्यर्थः गणशः गणं गणं आख्यायन्ते कथ्यन्ते गणप्राया हि विशः। प्रायेन संहता हि वित्तोपार्जनसमर्थाः नैकैकशः। *Corporate Life in Ansient India*, p. 2.
2. *Ait. Brā.* III. 30.3. IV. 25.8–9. VII. 18.8. *Sat. Brā.* XIII. 7.1.1.
3. Quoted in *Local Government in Ansient India*, p. 42.
4. Ibid., p. 43.
5. Supra., pp. 20–22.

agriculture, banking and trade. The nature of their avocation naturally made this class subservient to those who were master of either '*śāstras* or *śastras*.' The Vaiśyas were considered to be an object of exploitation for the Brāhmaṇas and the Kṣatriyas, who were encouraged by the śāstras to subsist upon this class either by getting *dakṣiṇā* (sacrificial fee) or extorting *bali* (tax) from them.[1] The rise of big monarchies and the structure of their state was also an increasing burden upon the Vaiśyas and sometimes a matter of great concern.[2] Therefore, during the post-Vedic period the Vaiśyas might have thought it proper to have some sort of corporation to safeguard their business-interest from the exploitations of the upper classes, particularly because their social position in the prevailing caste-system was not very much congenial to protect their

1. Supra., pp. 20–21.
2. The *Jātakas* inform about kings imposing oppressive taxation. The *Bhūridatta Jātaka* informs about tax-gatherers, who being ordered by the king, plundered the wealth of the people. *Jātaka*, Vol. VI. p. 212. A king is said to have drained his country of its gold by his exactations. Ibid., Vol. IV. p. 224; Vol. III. p. 319. Other examples of oppressive taxation are found in the *Jātakas*. Ibid., Vol. II. p. 240, Vol. IV. p. 362, Vol. V. p. 106. Most gloomy picture is presented in the *Jātaka*, Vol. V. p. 98. Here it is said that 'the kingdom of Kampilla was deserted by the people for oppressive taxation. Men betook to forest with their families. Others remained indoors at night, but on day-break fled to forests. *Social and Rural Economy*, p. 143. Doctrine of emergency taxation advocated by the authors of law and polity provided opportunity to states to impose extra-taxation. *Artha.*, *Mbh.* Śānti. 139. 24., *Manu.* VII. The Nanda rulers, particularly Mahāpadmananda are well known for their extortion. K. A. N. Sastri, *The Age of Nandas and Mauryas*, p. 12. They taxed not only men but property also. R. B. Pandey, *Bhāratiya Itihāsa kī Bhūmikā*, p. 12. The accumulative tendency of the Brāhmaṇas was also a burden on the producing class. A list of such wealthy Brāhmaṇas (known as [illegible] or [illegible]) is presented by B.C.Law in the *India as Described in Early Texts of Buddhism and Jainism*, p. 161. See also *Buddha Kālīna Bhūgola*, p. 622.

class-interest. Their caste-duties were such that they incorporated every mode of production, from primitive cattle-breeding to the advanced trade and banking.[1] Due to this, it was not possible for them to knit themselves into a single organic whole within the bosom of the caste-system, and thus they quite naturally split themselves into various units of professions independent of the caste-system, extending membership to all those who professed a similar trade or calling, but at the same time without any antagonism towards any caste whatsover. The process of organisation of guilds and corporations was so natural and peaceful that later on the *Dharmsūtras* and the *Smṛtis*, the most jealous propogaters of the caste-system, recognised the usefullness of the commercial and the industrial guilds.[2]

One of the reasons promoting corporate activities in the economic life was the localisation of trade and industry in the post-Vedic period. From the *Jātakas* and some other early Buddhist sources we get information about the localised guilds of the industrialists and traders, such as of *dantakāras*, *rajakas*, *pesakāras* and about *kumbhakāra*, *tantukāra*, *kammakāra*, *vaḍḍhaki's*[3] etc. Kauṭilya, while describing city-planning, has recommended that merchants trading with scents, garlands, grains and liquids should settle in the eastern quarter of the town. Traders in cooked rice, liquor and flesh should live in the south and artisans manfacturing worsted threads, cotton-threads, bamboo-mats, skins, armours etc. in the west. Smiths and workers in precious stones should have their place in the north.[4]

By the sixth century B. C. there was a great rise in the volume of trade in India. Increase in the trade needed an organised and planned production and quick distribution. This was possible only through an efficient system of financing.

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1. Supra., pp. 21–22.
2. *Artha.*, II. 7. 2; *Manu.*, VIII. 41; *Yaj*. I. 361.
3. *Social and Rural Economy*, pp. 233–234; *Pre-Buddhist India*, pp. 213–214; Supra., p. 26.
4. *Artha*, II. 4 , 16–23.

Kings in ancient India and their governments had taken upon themselves the duty to patronise trade by providing capital to help in production and also to safeguard the routes to enable quick distribution. But as governmental patronage to trade meant greater interference and extortion, traders depended more upon their own organizations than the governmental efforts. Thus, there arose a class of *seṭṭhis*, who controlled the financing of trade on individual as well as on partnership basis. Such *seṭṭhis*, while working as a joint stock company not only contributed to business by money but also with the commodities. The *seṭṭhis* made investments (*vikṣepa*) commodities (*paṇya*) either to the agents or to the individual traders. [1] The owners of merchandise hired out their goods to the enterprising people for a share of profit. [2] This practice of starting business by taking merchandise on loan and living on the surplus profits was very popular in those days. [3]

Besides that the guilds arose out of the necessity of financing trade and industry, their existence was also found useful to safeguard the commercial conventions, known as *samaya* and *śreṇidharma*. [4] These customs and conventions were in the nature of legal remedies, approved by the *śāstras*. Most of the commercial conventions were time-honoured and not opposed to morality, hence had the force of law. They quite reasonably supplemented the incomplete laws of the *smṛtis*, represented the class-interests, avoided contradiction between different sources of law and accomodated the spirit of the time. But the great monarchies were slightly to effect the recognigition of the customs by their *rājaśāsanas*. These guilds acted as custodians of the commercial conventions and customs. [5]

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1. *Artha.*, III. 11. 28–30.
2. *Jātaka*, Vol. VI. p. 69; Vol. IV. p. 256; Vol. V. 426.
3. *Dīgha Nikāya*, II. p. 69 *Milinda*, 89.
4. *Gautama Dharma Sūtra*, II. 2, 20–21; *Artha.*, II. 7, 2; *Manu.*, VIII. 41; *Yāj.*, I. 361.
5. The insecurity of the trade-routes as the only important factor for promoting corporate activity of guild type (*Corporate Life in Ancient India*, p. 1) is a farfetched idea. Though common apprehension of danger on the trade-route might have encouraged the

There were more than one type of guilds in ancient India. We find mention of eighteen types of guilds and sub-guilds (*senipaseni*),[1] a few of which like '*śreṇī*, *nigama*, *pūga* were especially recognised as trade-guilds. Unfortunately no description of the nature and organisation of these corporations is available. R. C. Majumdar suggests that the *śreṇī* was a corporation of people belonging to the same or different castes but following the same trade and industry.[2] V. S. Agrawala describes *śreṇi* as a guild of artisans only.[3] But his view is not very convincing because in the ancient works like the *Gautama Dharma Sūtra*, the *Arthaśāstra* and the *Mahābhārata* *śreṇī* has been explained as the guild of traders as well as of artisans.[4] Medhātithi, while explaining the word *śreṇī* occuring in the *Manusmṛti*,[5] takes it to be guilds of merchants, artisans, bankers and even of the Brāhmaṇas learned in the four Vedas. But *Mitākṣarā* commentary explains the same words in the Yājñavalkya as guilds of betel sellers etc.[6]

Perhaps the word *śreṇī* was a general term for guilds including the mercantile corporations. The specific term to denote the trader's corporation was perhaps *nigama*. *Nigama* occurs in the *Aṣṭādhyāyī* of Pāṇini in the sense of trader's guild.[7] Nigama also is a synonym for *pura*. In the *Amarakoṣa*,

traders to form a temporary league such as a caravan (*sārtha*), under a leader (*sārthavāha*), but such temporary causes were not responsible to bring permanent organic unity, as was possible through guilds like *śreṇi*, *nigama*, *puga* etc. Such guilds had more useful purpose to serve than to act as counter-organization against the organization or gangs of the robbers.

1. *Corporate life in Ancient India*, p. 3; *Life in Ancient India as Depicted in Jain Canons*, p. 109; *Local government in Ancient India*, p. 48; *Jātaka*, Vol. VI. p. 22.
2. *Corporate life in Ancient India*, p. 3.
3. *Pāṇini Kālīna Bhārata* p. 230.
4. *Gautama Dharma Sūtra*, XI. 21. *Artha.*, III. 14, 14. *Mbh.* vana. 248, 16.
5. Medhātithi on *Manu*, VIII. 41.
6. Mitākṣarā commentary on *Yājñavalkya*, I. 361.
7. *Aṣṭādhyāyī* V. 2, 21; *Pāṇini Kālīna Bhārata*, p. 230.

nigama stands for a city and *naigama* both for a trader and a citizen. It seems, however, reasonable to assume that most probably *nigama* was the mercantile corporation of such traders, who conducted the business by settling down permanently in a city. This shows that the main difference between *śreṇi* and *nigama* was that while *śreṇi* represented the interest of all sorts of professions, including traders irrespective of place, *nigama* represented particularly the interest of city-traders. But *pūga* is a more difficult term to interpret. In explaining *vrātena jīvati* of Pāṇini, [1] *Kāśikā* describes *pūga* as an association of men of different castes with no fixed profession, who are solely bent on making money and seeking pleasure. [2] But the *Mitākṣarā*, while commenting on Yājñavalkya [3] explains the word *pūga* as an assembly of the co-inhabitants of a village or town of different castes and occupations. [4] Thus while *śreṇi* represented the interests of different localities, [5] *pūga* represented the local interests. Similarly the difference between *nigama* and *pūga* is also clear. While *Nigama* represented the interest of only traders of a city, *pūga* represented the interest of different traders, crafts and professions of a locality.

The guilds were managed by a head called variously as *pamukha*, *jeṭṭhaka* or *seṭṭhi*. [6] How they were elected and what were their functions, are not known to us with any amount of definiteness. But on the basis of the meaning of the word we can infer that *pamukha* or *pramukha* was the head of the guild, perhaps on the basis of the superiority of

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1. *Aṣṭādhyāyī*, V. 3. III.
2. *Local Government in Ancient India*, pp. 32–33.
3. *Yāj*. II. 31.
4. पूगाः समूहा भिन्नजातीनां भिन्नवृत्तीनामेक-स्थान-निवासिनां यथा ग्रामनगरादयः *Mitākṣarā on Yāj*. II. 31. *Local Government in Ancient India* p. 32.
5. It is very strange that Kaiyaṭa and Tattvabodhinī commentary explain the word '*śreṇi* in Pāṇini II. 1, 55, as एकेन शिल्पेन पण्येन वा ये जीवन्ति तेषां समूहः श्रेणिः । *Local Government in Ancient India*, p. 33.
6. *Local Government in Ancient India*, p. 76., *Corporate life in Ancient India*, p. 33.

his wealth or of local influence. But the *jeṭṭhaka* was perhaps the oldest man of a guild, whose selection as the head was made on the basis of his age and experience. *Pramukha* and *śreṣṭhi* seem to be similar terms though among traders, the name *seṭṭhi* was more common than other terms, such as *pamukha* and *jeṭṭhaka*. Perhaps, *seṭṭhi* headed *nigama* and *pamukha* and *jeṭṭhaka* headed *śreṇi* and *pūga*, respectively. It has been pointed out by R. K. Mookerji that sometimes several types of guilds were headed by single *jeṭṭhaka*. [1] But, it does not seem to have been a normal feature with the ancient guilds.

The existence of economic guilds in ancient India is also proved by the epigraphic evidences. [2] Two Nasik inscriptions mention the guilds of weavers and potters respectively. [3] Similarly the inscriptions of Junnar record the existence of the guilds of bamboo-workers, brazierrs, as well as corn-dealers. [4] These inscriptions indicate that these guilds acted as modern banks and received deposits of public money on regular interest and lent out money to the people. A guild of *samitikara śreṇi* is mentioned in a Mathurā inscription of the Kuṣāṇa period.[5] This refers to a wheat-flour guild. [6] Bloch has discovered a number of seals refering to guilds of bankers, traders and merchants. [7]

The term *śreṣṭhin* does not occur in the Vedic *Saṃhitās*. [8] But, the term occurs in the *Brāhmaṇas*, where it is used in the sense 'the best, a leader, a nobleman, a man of honour'. [9]

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1. *Local Government in Ancient India*, p. 76.
2. *Corporate Life in Ancient India*, pp. 9–10.
3. *Luders List*, Nos. 1133, 1137.
4. Ibid., Nos. 1162, 1165, 1180.
5. *Epigraphia Indica*, Vol. XXI. p. 59.
6. *Trade and Commerce of Ancient India*, p. 321.
7. *A. S. I. A. R.*, 1903–1904, p. 104. For the contrary opinion, see *Corporate life in Ancient India*, p. 44.
8. Ivo Fiser, 'The Problem of the Seṭṭhī in Buddhist Jātaka,' *Archiv Orientální*, Vol. XXII, 2–3, 1954, p. 240.
9. Ibid., p. 241.

Thus, the Vedic term *śreṣṭhin* cannot be connected with the Pāli word *seṭṭhi*, who was 'a treasurer, a banker, a city-man, a wealthy merchant and a foreman of a guild'.[1] Several refesences in the *Jātakas* make it clear that the *seṭṭhi* originally occupied himself with agriculture and used to live in the province (*paccante*) and sometimes he was known as a country *seṭṭhi* (*janapadaseṭṭhi*) also.[2] With the development of trade and industries and the cities as the centre of commerce, the activities of the *seṭṭhis* became centred round the cities, therefore there arose a class of *seṭṭhis*, better known as *nagaraseṭṭhis*, who, though not producers, financed the production, controlled the producers and carried the wholesale trade in the market-towns (*nigama or nigamagāma*),[3] such as Takṣaśilā,[4] Sāketa,[5] Śrāvastī,[6] Mithilā,[7] Rājagṛha,[8] Vārāṇasī[9] etc. These *nagaraseṭṭhis* had their intimate relationship with the *seṭṭhis* of the *janapada* and the *paccante* and the bond between them was social[10] as well as commercial.[11] So far as business matter is concerned, they were the stockists of the products of the provinces (*paccante uṭṭhānakabhaṇḍaṃ*),[12] brought to cities in caravans, where these products had ready sale. These *seṭṭhis*, whose resources were enormous (*mahāvibhavoseṭṭhi*)[13]

1. *Arthive Orientālnī*, Vol. XII, p. 239. Pāli-English Dictionary (P. T. S.) p. 2-3.
2. *Jātaka*, Vol. IV. p. 37.
3. Ibid., Vol. I. p. 478; Vol. II. pp. 226-287.
4. Ibid., Vol. I. p. 191.
5. Ibid., Vol. VI. p. 228; *Vinaya*, Vol. I. p. 270.
6. Ibid., Vol. I. pp. 366, 432, 501; Vol. II. 224; Vol. III. p. 299.
7. Ibid., Vol. VI. pp. 43, 331, 344, 364.
8. Ibid., Vol. IV. I. pp. 12, 466, Vol. IV. p. 37.
9. Ibid., Vol. I. pp. 120, 231, 262, 269. 295, 349, 365, 412; Vol. II. 50, 225; Vol. III. pp. 51, 119, 225, 315; Vol. IV. pp. 1, 62, 249, 225, 376; Vol. V. p. 382; Vol. VI. p. 135.
10. Ibid., Vol. I. p. 453; Vol. II. p. 225; Vol. IV. p. 37.
11. Ibid., Vol. I. pp. 377, 451; Mrs. Rhys Davids, 'Notes on Early Economic Conditions in Northern India', *J. R. A. S.* 1901, pp. 871-872.
12. *Jātaka*, Vol. I. pp. 377, 451.
13. Ibid., Vol. I. pp. 145, 366, 378, 388, 413, 432, 451, 478, 501; Vol. II. p. 287; Vol. III. p. 56.

and wealth was conventional, amounting to 40 or 80 *koṭis*, (*asītikoṭivibhavo seṭṭhi*),[1] carried large scale transactions with the assistence of agents (*kammantikamanussā*),[2] as well as slaves and servants (*dāsakammakarā*).[3]

The terms, such as Rājagahaseṭṭhī of Vārāṇasī appear to convey the sense of a distinguished *seṭṭhi* of a particular place.[4] The distinguished position of a *seṭṭhī* is generally indicated by the term *seṭṭhiṭṭhānam*.[5] For this position, as Fick points out, it does not seem that the *seṭṭhi* was elected by the members of trading community.[6] On the contrary, though he represented the cause of mercantile class in the government, he was, as it appears from the Buddhist Texts, a state official appointed by the king on account of his wealth. Once a *seṭṭhi* was appointed to this Office, he remained in the Office for his whole life, even after his death, it was generally thought desirable and prudent to appoint his son or his successor to this office. But in such cases, probably the approval of the king was necessary. This measure was adopted to save this office from becoming hereditary. We know about a *seṭṭhi* of Śrāvastī named Ānanda, whose son Mūlasrī, after his death, was appointed by the king as *nagara seṭṭhi* as the successor of Ānanda.[7] *Seṭṭhis*, therefore, trained their sons in their business with special care. A certain

1. *Jātaka*, Vol. I. pp. 345, 466; Vol. III. pp. 56, 299; Vol. III. pp. 128, 444; Vol. IV, p. 210; Vol. V. p. 210; Vol. VI. p. 228.
2. Ibid., Vol. I. p. 40.
3. Ibid., Vol. II. p. 382; Vol. IV. p. 540.
4. *Corporate Life in Ancient India*, p. 83.
5. *Jātaka*, Vol. I. p. 45; Vol. II. pp. 171, 291; Vol. IV. p. 450. According to I. Fiser the term *seṭṭhiṭṭhānam* denotes only the position of a *seṭṭhi*. *Archiv Orientální*, Vol. XXII. 2–3 p. 250. But R. L. Mehta understands it as denoting the office of the *seṭṭhi*. *Pre-Buddhist India*, p. 219.
6. *Social Organisation in North-East India*, p. 259.
7. *Dhammapada Aṭṭhakathā*, (H. O. S. Vol. 29) Part II. pp. 25–28, *Dictionary of Pali Proper Names*, Vol. I. p. 270.

Ānanda, at the time of his death is said to have instructed his son to increase the wealth through business, so that he might remain in the office of his father and not be supplanted by any one else. [1] Similarly we find a notable merchant's son, about to adopt the profession of his father, being asked by his father to learn the secrets of his success in business and the eithics of trade. [2] But when the hereditary business was forsaken, the office of the *seṭṭhi* used to go in some other family of the town. [3] In some cases, however, we find that even on the loss of hereditary business, the office of *seṭṭhī* remained in the same family, if the king so desired. [4]

Though normally a *seṭṭhī* was selected from among the local merchants, in special circumstances a merchant from outside could also be called and appointed to the post. In the *Aṅguttara Nikāya* we find prince Prasenajit of Kośala requesting Bimbisāra of Magadha to send him a *seṭṭhī* for appointment as *nagaraseṭṭhi* of *Sāketa*. Bimbisāra sent Dhanañjaya of Bhaddiya in Aṅga to the king of Kośala for this purpose. [5]

Unfortunately, for want of information, we know little about the functions of the *seṭṭhī*. It is however almost certain that the *seṭṭhī* had an office (*thāna*) [6] where he attended to his business in his dual capacities of as an officer of the state and of as an individual trader. In official capacity he had to attend on the king (*rajapattkha*) [7] daily, sometimes thrice. [8] He had also to take the permission of the

1. *Dictionary of Pāli Proper Names*, Vol. I. p. 270.
2. *Jātaka*, Vol. IV. p. 256.
3. *Dhammapada Aṭṭhakathā*, Vol. II. pp. 25–28. *Dictionary of Pali Proper Names*, Vol. I. p. 270; *Jātaka*, Vol. II. p. 291.
4. *Dammapada Aṭṭhakathā*, (H.O.S. Vol. 28) Part I. p. 385. *Vissuddhimagga*, Vol. V. p. 403.
5. *Aṅguttara Nikāya*, 1. 7. 2, *Purātattva Nibandhāvalī*, p. 100.
6. *Pre-Buddhist India*, p. 219.
7. *Jātaka*, Vol. I. pp. 120, 269, 349; Vol. III. pp. 119, 299; Vol. IV. p. 63; Vol. V. p. 384.
8. Ibid., Vol. III. p. 475.

king if he wanted to renounce the world or to give away his wealth in charity.[1] In his capacity of a trader he often conducted *sārthas*,[2] transacted business in the city, granted interviews to dealers of different commodities,[3] held large landed property,[4] hoarded wealth in gold and in coins,[5] stocked huge quantity of grains in granary and financed[6] local trade and industry.[7]

The duties and responsibilities of the *seṭṭhīs* were not confined to finance and commerce only. He had also to discharge some social and civic duties and had moral responsibilities towards the religion. In this way on many occasions he had to render services both to the king and to the guilds of merchants. His fame went far and wide and he was respected and honoured by the king, citizens and the people of villages.[8] His regard in the eyes of the people was much more than that of the nobles and the princes. The sentence of capital punishment given to a *seṭṭhī* had deeper repurcussions than the execution of princess and queens.[9]

Sometimes *nagaraseṭṭhis* or *mahāseṭṭhis* conducted the business with the assistence of subordinate *seṭṭhis* designated as *cullaseṭṭhī* and *anuseṭṭhi*.[10] The *mahāseṭṭhī* sometimes headed five hundred to one thousand such *seṭṭhis*.[11] Similarly, there were advisors, to help the *seṭṭhis*. According to

1. *Jātaka*, Vol. II. p. 64.
2. *Social and Rural Economy*, p. 261, *Pre-Buddhist India*, p. 219.
3. *Apadāna*. II. p. 357. *India as Described in Early Texts of Jainism and Buddhism*. pp. 177–79.
4. *Jātaka*, Vol. II. p. 378.
5. Ibid., Vol. I. pp. 345, 444, 466; II. p. 331; III. p. 56, 129, 300; IV. p. 1, 255; V. p. 385 etc.
6. Ibid., Vol. I. p. 467.
7. Ibid., Vol. IV. p. 38. *Vin*, Vol. I p.
8. Ibid., Vol. V. p. 382.
9. Ibid., Vol. VI. p. 135,
10. *Pre-Buddhist India*. p. 219.
11. *Jātaka*. Vol. VI. p. 344.

Yājñavalkya, men knowing *dharma*, pure, unavaricious and well wishers of the community (*samūha hitavādinaḥ*) only should assist the *seṭṭhis*. [1]

Technically speaking the *sārtha*[2]-system of ancient Indian traders was also a form of the ancient Indian economic guilds. It was a mobile corporation constituted essentially by traders for common protection, particularly while they were in transit for trade. Such a company of traders (*sārtha*) was led by a leader called *sārthavāha*.[3] Loyalty and obedience to the leader were the essential pre-requisites for the members of the *sārthavāhas*. The members of the *sārtha* depended upon the direction of their leader as to halts, use of water, precautions against brigands at dangerous places and the routes etc. [4] Sometimes, when one individual *seṭṭhi* had sufficient resources to organise a *sārtha*, he went out for trade individually, the other members of the *sārtha* being his employees. But generally a trader formed a joint stock company by inviting other traders. On such occasions it was a common practice to announce to the traders by beat of drums and the sounding of bells that those who wanted to go on trade to distant lands might join the company with their merchandise. [5] In some cases traders had to

1. *Yāj*. II. 191.
2. According to V. S. Agrawala, the traders doing their business by forming guilds like *sārtha* were known as *sāṁsthānika* before the origin of the word *sārthavāha*. *Pāṇini Kālīna Bhārata*, p. 230. But probably the word *sāṁsthānika* was a genaral term to denote traders forming guilds of any type and it was not restricted to the sense of *sārthavāha*.
3. *Jātaka*, I. p. 368; II. p. 295.
4. Ibid., Vol. I. p. 99; *Pre-Buddhist India*, p. 271.
5. *Avadāna Śataka* describes the announcement made by the organisers of a sārtha as—ततस्तेन······वाराणस्यां नगर्यां घण्टावघोषणं कारितं, शृण्वन्तु भवन्तो वाराणसीनिवासिनो वणिजः मैत्रकन्यकः सार्थवाहो महासमुद्रमवतरिष्यति। ये युष्माकमुत्सहन्ते मैत्रकन्यकेन सार्थवाहेन सार्धमशुल्केनागुल्मेनातरपण्येन महासमुद्रमवतर्तुम्, ते महासमुद्रगमनीयं समुदानयन्त्विति। *Avadāna Śataka*, p. 90.

advertise the advantages, which he was offering to his fellow traders. Sometimes he promised to provide fellow companions with free food, drinks, cloths, utensils and medicines. [1]

Sometimes due to the unmanagable number of waggon-loads in a single caravan, it was considered wise to divide it into two caravans under two different *sārthavāhas*.[2] This measure protected a huge sized caravans from the dangers caused by the scarcity of food, drink and other provisions.

Some scholars have found that the ancient Indian caravans had no contractual basis and there was no agreement existing between the outgoing traders. It is further suggested that beyond the fact that there was a concerted action in chartering one and the same vessel, there was no close contractual unity in them. [3]

It is, however, difficult to deny totally the existence of any contractual relationship among the caravan-members. The instance of the *Cullaseṭṭhi Jātaka*, [4] on which Rati Lal Mehta and Motichandra base their view is a solitary one. Cullaseṭṭhi, while purchasing the cargo purchased it by trick and on behalf of his own. He was not the member of any caravan. But, the same *Jātaka* shows that the hundred members of a caravan, while purchasing the cargo of the ship through Cullaseṭṭhi contributed jointly to *Cullaseṭṭhi*, giving a thousand pieces to buy a share in the ship and then a further thousand each to buy him out altogether. This does not show, as Rati Lal Mehta concludes, that every trader of that caravan was trying to score his own bat. [5] On the other hand it shows that those hundred traders purchased the cargo having formed a joint stock company, which presupposes the idea of contract behind the formation of a *sārtha*.

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1. *Avadāna Śataka*, 90.
2. *Dīgha Nikāya*, XIII. 23; *Jātaka*, I. 98; *Social and Rural Economy* p. 225.
3. *Pre-Buddhist India*, p. 217; *Sārthavāha*, p. 65.
4. *Jātaka*, Vol. I. p. 112.
5. *Pre-Buddhist India*, p. 217; *Jātaka*, Vol. I. p. 122.

Sometimes the institution of *sārthavāha* continued for generations. [1] In the *Avadāna Śataka*, we get an instance of Maitrakanyaka, who was insulted and rebuked for not following the traditional and family profession of conducting business by organising *sārtha*. He was earning his livelihood through the profession of okkarika (dealer in agricultural products), gandhika (perfumers) hairañika (gold-merchant). [2] His not following the profession of *sārtha* was treated by the people as *addharma jivikā*. [3] The same *Avadāna* gives some indication about the contractual relationship between the caravan-leader (*sārthavāha*) and other traders (*vaṇiks*). The five hundred traders, who accompanied the Maitrakanyaka (*sārthavāha*) contributed to him with various taxes like, *śulka*, *gulma*, *tarpanya* etc. [4]

It appears that *sārthas* of ancient India were of more than one types. There were *sārthas* organised by individual traders.[5] In such *sārthas* the relation between the leader of the caravan and the members of the caravan was that of the master and the servants. The members of the caravan were merely wage-earners. Such caravans were financed and organised by big traders like Anāthapiṇḍika of Śrāvasti.

In the second form of *sārtha* the membership of caravan was enjoyed by more than one trader. All the members of such a caravan had equal contractual status and the profit of their enterprise was divided according to their respective shares in the capital etc. The *Kūṭavaṇija Jātaka* presents the example of a such *sārtha*. [6] Horse-dealers of Uttarāpatha generally formed such *sārthas*. [7] The third type of *sārtha* was comperatively a loose organisation including all sorts of

1. *Jātaka*, Vol. I. pp. 98, 107, 120, 122; Vol. II. pp. 64, 286, 287; Vol. IV. p. 198; Vol IV. p. 92.
2. *Avadāna Śataka*, p. 89–90.
3. Ibid., p. 90.
4. Ibid., p. 90.
5. *Jātaka*, Vol. I. p. 98.
6. Ibid., Vol. I. p. 404; Vol. II. pp. 181–184.
7. Ibid., Vol. II. pp. 31, 287.

people, sometimes even uncommercial people, who had to go to a comman destination. In one *Jātaka* we find that a caravan included a pregnant woman. [1] In such caravans the common protection was the main idea, therefore, when the caravan had reached its destinition, the members owed no allegience to each other or to the leader of the caravan (*sārthavāha*). The caravan, which was acompanied by the Cullaseṭṭhi was of such type.[2] Sometimes, the caravan were also led by the professional pilots, particularly, on the routes leading to high seas [3] or passing through the forests infested by the robbers. [4]

Sambhūya samutthāna was a particular type of economic activity in ancient India in which mutual co-operation had its special significance. The term has been explained by P. V. Kane as an undertaking in which people joined together (with labour or capital or with both). [5] Thus, it was a form of joint undertaking similar to modern partnership. About the antiquity of partnership system, P. V. Kane has pointed out that in the times of the ancient *sūtras* secular partnership had not attained sufficient importance and even in the times of the *Manusmṛti* almost the same was the case. According to him it was during the days of Yājñavalkya that secular joint undertakings assumed great importance. [6] The antiquity of joint partnership, however, can be traced long before the *Yājñavalkya Smṛti*. It seems that the conception of joint partnership had an independent origin. In religious partnership, however, profit was not the immediate motive. But in secular partnership profit and common protection were the fundamental motives. Therefore, in the *Jātaka* stories, partnership has been explained as *dve janā pattikā hutvā* [7] or *dve janā*

1. *Jātaka*, Vol. IV. p. 38.
2. Ibid., Vol. I. pp. 120-122.
3. Supra., p. 131.
4. Supra., pp. 123-124.
5. *History of Dharmaśāstra*, Vol. III. p. 466.
6. Ibid., Vol. III. pp. 469-470.
7. *Jātaka*, Vol. II. p. 181.

ekto vāṇijjaṃ karanto labdhalābha. [1] The other difference between secular and non-secular partnership was that while in sacrificial partnership the partners divided the fees (*dakṣinā*) as wage earners, in secular partnership the profit was distributed among them as share-holders. But the most significant difference between the two, was in the nature and position of contracting parties. In the *Manusmṛti* we find that in non-secular partnerships the contract was made between the sacrificers and the sacrificial priests. [2] There is no evidence to show that there was any contractual relationship among the priests. In secular partnership, however, the contract used to be made between the partners transacting business or contributing capital and thus enjoying equality of a legal status.

There were several types of partnerships in ancient India. From simple and temporary partnership for selling the pots and pans [3] we find complicated types of partnerships for large scale import and export business.

Examples of all such partnerships are found in the *Jātaka* stories, which refer to the horse-dealers of the north importing horses to Vārāṇasī, [4] the traders of Śrāvastī carrying on trade with five hundred cart-loads of merchandise, [5] the traders of Vārāṇasī with the same number of cart-loads conducting business in the various *janapadas* of the country, bound by equal interest both in the stock-in-trade and in the oxen and waggons, [6] and the traders of Vārāṇasī trading with the merchants of Ujjain, [7] who exported birds to Babylon etc. [8]

Joint chartering of water-transport was also a peculiar feature of some of the ancient Indian partnerships. In the *Jātakas* there are instances which refer to as many as five hundred

1. *Jātaka.* Vol. I. p. 404.
2. *Manu.*, VIII. 206–211.
3. *Jātaka*, Vol. I. p. 111.
4. Ibid. Vol. II. p. 31.
5. Ibid. IV. pp. 350, 354.
6. Ibid. Vol. I. p. 404; *Local Government in Ancient India*, p. 79.
7. *Jātaka*, Vol. II. p. 248.
8. Ibid., Vol. III. p. 126–127.

passengers boarding a ship on a partnership basis. In the *Suppāraka Kumāra Jātaka* there is a story about a pilot, who was jointly employed by seven hundred traders on board for guidance on the high seas. [1] Partnership was also formed for joint purchases. We have referred to above [2] how a company of hundred traders purchased the cargo of a foreign ship jointly through Cullaseṭṭhi, a merchant of Vārāṇasi. Sometimes it also happened that traders entered into partnership to prevent underselling. [3] Kauṭilya, for example, has very clearly pointed out that kings should punish the merchants, who unite to prevent the sale of merchandise, to raise the price or to lower the quality of a commodity. [4]

The partnership-rules have been laid down by our ancient law-givers. Such laws relating to partnership (*sambhūya samuthāna*) were quite humane and provided security both to the producer and the consumer. These rules also brought a healthy understanding between the partners by establishing their mutual relationship on the basis of equity and law.

The contractual relationship between the partners was fundamentally based on dividing the profits according to the contribution (in labour and capital) of individual members. [5] In some cases, however, where special agreements were made, the proceeds and returns were distributed among constituent partners according to the contract and agreement (*samvidā*). [6] In the absence of an agreement, the skill, the ability or the prudence in business had no value in relation to the distribution of profits. The shares in the profit were determined only on the basis of labour and capital contributed by the respective members of the partnership. The *kūṭavanija Jātaka*

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1. *Jātaka*, Vol. IV. pp. 138–142.
2. Supra. p. 220.
3. Jātaka. I. pp. 99, 121, 194–270, 354, 368, 413; Vol. II. pp. 109, 335; Vol. III. p. 200; *Pre-Buddhist India*, p. 218.
4. *Artha.*, IV. 2. 19–20.
5. *Yāj*. II. 259.
6. Ibid. II. 259.

is very clear on this point; it refers to a dispute between two merchants called respectively 'wise and the wisest.' On the basis of personal ability the wisest partner claimed two-thirds of the profit, but his claims were not considered reasonable in the absence of an agreement and the profits were divided in equal shares on the basis of their equal investment in stock in trade. [1] In cases where a profit accrued without the actual sale or purchase of goods of a partnership, the gain was considered as a bye-product of the partnership and was put down separately and set apart as a common property to be utilised for charities. We have a *Jātaka* story [2] which refers to some traders of Śrāvastī who carried a joint business, as coming accross rich finds of minerals of all sorts. They put this wealth in a common treasure-house and financed the food supply to the Buddhist brotherhood out of the profits of these finds.

It is suggested by Kauṭilya that the distribution of profits should be made after accounting for every transaction. [3] This was done to avoid the dangers of uncertain future. This injunction, however did not hamper the creation of partnerships.[4] Regarding the liabilities of a partner in active business, Yājñavalkya remarks that whatever, is forbidden or not sanctioned, or what has been injured through negligence, such property he (the partner conducting the business) shall make good, but he shall be entitled to a tenth part of the property preserved from misfortune. [5] 'Similarly if a partner was fraudulently deprived of his share of profits he was given a judicial claim on the share of the partner who deceived him.' To avoid such occurrences a partner, unable to conduct and supervise the business personally, was allowed to appoint his agent on his behalf. His appointee had a valid authority to work as a partner in the undertaking. [6]

1. *Jātaka, Vol. I. p. 404.*
2. *Ibid., Vol. II. p. 296.*
3. *Artha.*, III, 14, 24.
4. Ibid., 14, 25–26.
5. *Yāj.*, II. 260.
6. Ibid., II, 265.

CHAPTER XI

BUSINESS TRANSACTION AND OTHER COMMERCIAL CONVENTIONS

So far we have discussed the group traders and their organisation. Now, before we study the mode of business transactions, let us refer to the position of individual traders, who were concerned with the actual distribution of commodities among the consumers. Big partnerships and guilds were mainly constituted by whole-sale dealers; the individual traders conducting retail trade depended for their commodities either on the wholesale dealers or on their own small scale production.

In Kauṭilyan terminology a retail trader was called *Vaiyā vṛtya.*[1] Generally there was a contractual relationship between a wholesale dealer and a retail trader, and the basis of contract was perhaps commission or a share in profit.[2] Kauṭilya suggests that 'the retail dealers, selling the merchandise of others at prices prevailing at particular localities and a time, shall hand over to the wholesale dealers as much of the sale proceeds and profit as is realised by them. If owing to a distance in time or place, there occurs any fall in the value of the merchandise, the retail dealers shall pay the value and profit at that rate which obtained, when they received the merchandise.'[3]

It was necessay for the wholesale dealer to maintain a proper account and to deduct the commission of the agent or of the broker from the profit.[4] Kauṭilya has pointed out

1. *Artha.*, III. 12, 28.
2. *Social and Rural Economy*, p. 256.
3. वैश्याहृस्यकरा यथादेशकालं विक्रीणानाः पण्यं यथाजातं मूल्यमुदयं च दद्युः। देशकालातिपातेन वा परिहीणं सम्प्रदानकालिकेनार्घेण मूल्यमुदयं च दद्युः।
   Artha., III. 12, 28–29.
4. Ibid., IV. 2, 25.

that the profit of a wholesale-dealer and the income (brokerage) of commission agent or middlemen are two different things. The middlemen's brokerage was perhaps fixed and that was regularly put in the account of the agent irrespective of the profit of the wholesale-dealer. [1] In the case of loss due to fall of the price of the commodities, the wholesale-dealer had the right to realise the value as well as profit from the retail-trader at the rate fixed or prevalent at the time when the retail trader took charge of the commodity. This shows that though the interests of the wholesale-dealer were properly safeguarded by the law, those of the retail-trader were less cared for. Whatever might be the returns on their transactions as middle men, they were to be satisfied simply with the 'amount on which they were authorised to live;' [2] even this they had to lose if the market did not favour them and the returns of the sale did not exceed the amount fixed as the value and the profit of a commodity by the wholesale-dealer. And if ever they were found causing loss by fraudulent means either to the wholesale-dealer or to the purchaser, with a view to deriving some extra gain, they were punished with fines.[3]

Besides these retail-traders or the commission-agents, servants were also employed by big traders to sell the commodities of their employers on the wages or on pay basis. Their liabilities to their master were to sell the goods on behalf of their employer, and to return the proceeds, without taking any profit. They, however, were not responsible for the loss due to the fall in prices. [4] The servants employed

1. *Artha.*, III. 12, 32.
2. Ibid., IV. 2, 24; Ibid., (S) p. 233.
3. Kauṭilya says 'middlemen who cause to a merchant or a purchaser the loss of $\frac{1}{8}$th of a *paṇa* by substituting with tricks of hand, false weights or measures or other kinds of inferior articles shall be punished with a fine of 200 *paṇas*.

   Fines for greater loss shall be proportionately increased commencing from 200 *paṇas*.' p. 233. *Artha.*, IV. 2, 21-22; Ibid., (S) p. 233.
4. Ibid., III. 12, 32-36.

by partnership firms, who were found honest to their duties, and were never convicted by the king for any offence, were not required to restore the value of the commodity, lost or destroyed owing to its inherent defect or an unforeseen cause. But for such merchandise, which fell in price due to a distance of time or place, they were required to restore as much of the value and the profit as remained after making allowance for wear and tear of the merchandise. [1]

But much of the retail-trade was carried on by hawkers and shop-keepers, who not only distributed the commodities of wholesale-dealers as independent traders but also sold the commodities, which they either produced or purchased directly from other producers.

In the *Jātakas* the hawker is a common sight. [2] Hawkers in the days of the *Jātakas* conducted not simply the local trade, but sometimes they travelled with their commodities to a considerable distance. A hawker of Vārāṇasī is said to have conducted a load of pottery to Takṣaśilā. [3] Generally, the hawkers conducted their merchandise on their person, but sometimes donkeys were also employed for this purpose. [4] Besides the merchandise, a hawker also was to be equipped with balances and a bag [5] (perhaps to contain commodities). But where convenient, hawkers carried wares for sale in portable trays, [6] or in baskets. [7] To advertise their goods and to attract customers, it was their practice to shout the name of the commodity they were hawking, [8] sometimes in the middle of the villages [9] (*gāmamajjhe*).

1. *Artha.*, III. 12, 35.
2. *Social and Rural Economy*, p. 254.
3. *Dammapada Aṭṭhakathā* (H. O. S. Vol. 28) part I. p. 224.
4. Supra., pp. 144–145.
5. *Jātaka*, Vol. I. p. 112.
6. Ibid., Vol. III. p. 21; *India as Described in Early Texts of Jainism and Buddhism*, p. 189.
7. Ibid. Vol. III. p. 21; *Social and Rural Economy*, p. 254.
8. *Jātaka*, Vol. I. pp. 112–205.
9. Ibid. Vol. I. p. 205.

It was very likely that two hawkers with similar commodities could be hawking in the same street at the same time. This would be very annoying; therefore, the hawkers used to divide the streets between them and thus avoided competition. [1] But such agreements were for only the first visit. Once one had tried his luck in a particular street, he lost all claims of monopoly and other traders had full right to visit the street, and conduct their business. The *Serivaṇija Jātaka* speaks of two hawkers, who aportioned the streets of Andhapura among themselves with a view to sell their commodities separately. It was also agreed upon by them that one could try the streets to which the other had already been. [2] From the same *Jātakas* we also infer that sometimes hawkers attempted to cheat the innocent customers. Thus, it is said that a hawker attempted to exchange his ordinary pots with a gold bowl from an old woman. The medium of exchange in trade of hawkers was coins as well as barter. [3] The role of middlemen or trade-intermediaries was of much significance in the international commerce and commodities generally passed through tribe to tribe, or nation to nation; each tribe or nation passing the commodity to the neighbouring place, and thus ultimately putting the commodities in the hands of actual consumers. [4] Sometimes the commodities passed through the hands of so many intermediaries that the original producer had no idea of the consumers [5] of his goods. The more was the trade in primitive condition the more it required the intermediaries. [6] We actually have no idea of the people, who acted as middlemen in the proto-historic Indo-Sumerian commerce. In later times also, though India could

1. *Jātaka*, Vol. I. p. 111.
2. Ibid., Vol. I. p. 111.
3. Ibid., Vol. I. p. 111.
4. *Intercourse between India and the West*, p. 2.
5. From the Chinese Annals we know that the Chinese bamboo reached in the Bactrian markets through Indian intermediaries, though the Chinese had no idea of Indian intermediaries. *India and China*, p. 5.
6. *Economic Condition of Ancient India*, p. 264.

develop direct trading, the bulk of international commerce of India was carried through foreign intermediaries such as Arabs, Syrians, Egyptians, Romans [1] etc. The factor which created a scope for the role of foreign middlemen was the positive [2] situation of Indian trade balance. Most of the countries consuming Indian goods, either traded with India through middlemen or made direct approach to the Indian markets. The economic position of these middlemen of course was not merely of a common carrier; they had their independent role in the Indian commerce.

Kraya-vikraya was the main feature of ancient Indian business transaction. [3] A trader (*krayavikrayika*) [4] carried the business for profit (*lābha*), [5] which was earned on the capital (*mūla*) [6] invested by a trader. As the very aim of a trader was profit, [7] since the Vedic times they are found trying to derive as much profit as they could. [8] Sometimes, even when the price was settled, sellers tried to gain something extra than the price originally settled. But in such cases it was an established rule that once the price was settled, no bargaining was permissible. [9] Haggling was a common

1. *Greeks in Bactria and India*, pp. 362–66; *Commerce between Roman Empire and India*, pp 2, 11, 129.
2. If the total value of exports is greater than the total value of imports, the foreign balance is said to be positive. *Man and His Material Resources*, p. 63.
3. In the *Rgveda* the root *krī* occures for purchase. *R.V.* IV. 24, 10.
4. *Aṣṭādhyāyī* IV. 4, 13. *Vaṇik* or *vāṇija* were also the terms for traders. *India as known to Pāṇini*, p. 238.
5. *Aṣṭādhyāyī*, V. 1, 47.
6. Ibid., IV. 4. 91.
7. Traders' greatest satisfaction was in profit and had a proverbial. वणिगिव लब्धलाभः *Avadāna Śataka*. VI. 53, p. 135. 'But too much profiteering is the root cause of distruction, says the Buddha, भो वणिजा लाभोनामं एस विनासमूलं ।

   Jātaka, Vol. II. p. 295.
8. *R.V.* IV. 24, 9.
9. Ibid., IV. 24, 9.

practice for settling the price.[1] Thus, in the *Śatapatha Brāhmaṇa* a ṛṣi says 'because they first bargain and afterwards come to terms, therefore, about any and everything that is for sale here people first bargain and afterwards come to terms'[2] The *Jātaka* stories also indicate the determination of price by haggling; sometimes climbing up from a single *kahāpaṇa* to 100 or 1000 *kahāpaṇas*. Often this haggling resulted in serious disputes and the dishonest customers beat the sellers.[3]

But haggling was not always a favoured practice. When two caravans were to follow the same destination wise traders chose to go last so that they could sell their wares on settled price. They regarded haggling 'a killing business.'[4]

But inspite of the fact that traders as well as customers disliked haggling and the advantages of fixed prices were realised, the traders consistently tried to enhance the prices of their commodities, particularly during the days of the Mauryas. Kauṭilya mentions the tendency of hoarding and profiteering among the traders. He points out that traders unite in causing rise and fall in the value of articles, and live by making cent per cent profit in *paṇas* or *kumbhās*.[5] In such cases traders either prevented the sale of their merchandise or sold them at higher prices. For all such traders he prescribed fine of 1000 *paṇas*.[6] Similarly, *Yājñavalkya* has imposed the highest punishment for traders combining to maintain high price to the prejudice of labourers and artisans.[7]

1. *Economic Life and Progress*, p. 171. *Social and Rural Economy*, p. 266. *Jātaka*, Vol. I. pp. 111, 146; Vol. II. 222, 289, 424; Vol. VI. 113, 479.
2. *Śat. Brā.* III. 3, 1–4; *Social and Rural Economy*, p. 266 Haggling over the price of *soma* is referred to the *Kātyāyana Śrauta Sūtra*, VII. 8, 1–12.
3. Ibid., Vol. VI. p. 113.
4. *Jātaka*, I. p. 4.
5. *Artha.*, IV. 2, 20.
6. Ibid. IV. 2, 20.
7. *Yāj.*, 249.

Sometimes a single trader could enhance the price of a commodity by an early approach to the market [1] or by hoarding or by holding the monopoly on sale. The *Culla-seṭṭhi Jātaka* informs us that a trader by imposing on the grass-sellers the restriction that they will not sell their grass until his own grass was sold, earned 1000 *kārṣāpaṇas* as the price of 500 bundles of grass. [2]

The beginning of the practice of price fixation can be traced to the institution of the court-valuer (*agghakāraka*, or *aggha-paṇika*). [3] The court-valuer stood between the seller and the king and purchased commodities for the palace and the royal teasury. He was appointed by the king generally to purchase horses, elephants, chariots, precious rugs, pearls and gems etc. [4] His decision was liable to revision only by the king.[5] Though generally he conducted his business honestly, he was not immune from bribes and baits. [6] His under valuation and deceitful practices caused serious loss to the traders. [7] The office of the court-valuer, as A. N. Bose remarks, 'was gradually transformed into that of a price expert and then into a ministry or board of price controlers for the whole market.' [8] But it seems that while the court-valuers were state-officials, the price-experts (*sarvapaṇyavicakṣaṇa*) [9] were either the employees of private traders or independent valuers working on commission. Such valuers were responsible for looking to the customary rates[10] and statutory prices. [11]

Kauṭilya has emphasised that for all kinds of commodities the state should fix the price, equitable for the people and

1. *Jātaka*, Vol. I. pp. 98–99.
2. Ibid., Vol. I. p. 121.
3. *Social and Rural Economy*, p. 269.
4. *Jātaka*, Vol. I. p. 125.
5. Ibid. Vol. II. p. 31; *Social and Rural Economy*, p. 270.
6. *Jātaka*, Vol. I. pp. 124–126; *Social and Rural Economy*, p. 270.
7. *Jātaka*, Vol. I. p. 127.
8. *Social and Rural Economy*, p. 270.
9. *Manu.*, VIII. 398.
10. *Social and Rural Economy*, pp. 266–69
11. Ibid., p. 270.

thus curb the tendency of traders to make the illegal profit.[1] Manu has laid dawn that the kings should regulate the purchase and sale of all marketable commodities after having taken into consideration their source, destination, the period of detention, the margin of profit and the loss of the traders.[2] Similar is the opinion of Yājñavalkya, who says that adding the incidental charges to the cost of the commodity, the price should be fixed, which is equitable both to the buyer and the seller.[3] The tendency of fixing prices through the statute of kings also appear in the *Manusmṛti* and *Yājñavalkyasmṛti*. Manu says that kings should settle prices publicly with the help of merchants every fifth or every fourteenth day.[4] Yājñavalkya also justified this power of kings to control the market rates. He says that the sale or purchase should be conducted at the prices fixed by the king; the surplus alone could be the legal profit of traders.[5]

As regards the general rate of profits Kauṭilya has recommended that the superintendent of commerce should fix a profit of five per cent over and above the fixed price of local commodities, and ten per cent on foreign produce. A profit beyond this limit was a punishable crime.[6] This principle of fixing the rate of profit on local and foreign commodities seems to have continued upto the 3rd century A. D. and was recommended by Yājñavalkya also.[7]

A substantial amount of profit accrued from state-trading by restricting and restraining the sale of certain commodities and creating an artificial situation of demand. The traders and the superintendent of commerce regularly studied the

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1. " प्रजानामनुग्रहेण विक्रापयेत् । स्थूलमपि च लाभ प्रजानामौपघातिकं वारयेत् ।
Artha., II. 16, 7–8.
2. *Manu.*, VIII. 401.
3. *Yāj.*, II. 253.
4. *Manu.*, VIII. 402.
5. *Yāj.*, II. 251.
6. *Artha.*, IV. 2, 29, 30.
. 252.

condition of sale which was an important factor in creating profits. [1] For derterminiog the scope of sale and purchase [2] of a commodity, the next factor was the condition of the demand and supply. Thus, if it was found that the merchandise was widely distributed, the state adopted measures to centralise the commodities and thus created an occasion for enhancing the price. [3] And once the enhanced prices were popular, the state again found an occasion to introduce revised rates of prices, with a view to gain more profit. [4] But it must be noted that such restrictions were not imposed on the commodities of daily necessity as it would have harmed the interest of the people. Thus, Kauṭilya says that there should be no restriction on the time of the sale of those commodities for which there is frequent demand; nor should they be subjected to the evil of centralisation (*saṅkuladoṣa*). [5]

In the early stages of commercial development there was little scope for the emergence of the institution of market and much of the commerce was carried on through hawking. We do not find any evidence of the existence of markets in the Vedic period. [6] In the *Aṣṭādhyāyī*, *āpaṇa* has been mentioned [7] as a place of business. The *Jātaka* stories suggest that every village had its own resident traders and for the most part buying and selling were done directly, probably in the individual shops or in the market-place. [8] They also suggest that the towns were having streets especially aportioned for different products. Thus the *dantakāra vīthī*, [9] *rajaka*

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1. *Artha*, II. 16, 1.
2. Ibid., II. 16. 2.
3. Ibid., II. 16, 3.
4. Ibid., II. 16, 4.
5. अजस्रपण्यानां कालोपरोधं संकुलदोषं वा नोत्पादयेत् Ibid., II. 16. 9.
6. *Economic Life and Progress*, p. 154.
7. *Aṣṭādhyāyī*, III. 3. 21.
8. *Pre-Buddhist India*, p. 231. For the contrary opinion of Mrs. Rhys Davids see *J. R. A. S.* 1901, p. 874.
9. *Jātaka*, Vol. I. p. 320, Vol. II. p. 197.

vithī.[1] *tanta vitataṭhānam*[2] were the specialised markets for ivory-goods, dyed-cloths and the products of the weavers, respectively. Similarly, there were the markets for flowers perfumes, and rice. In the *Milinda Pañho* markets are mentioned as one of the essential elements of a city.[3] It also refers to the sub-markets of flowers, fruits, antidotes, medicines, precious stones[4] etc. In the *Rāmāyaṇa* the markets of Ayodhyā are vividly described.[5] The shops of specialised commodities are also mentioned.[6] In the *Jātaka* stories we find several reference to wine shops.[7] In the *Vinaya Piṭaka* a cotton shop is mentioned. A city of the Aṅga *janapada* had 2000 shops.[8] The shops constituted important element of an army-camp during campaigns.[9]

The institution of market was effectively put under the state-control by the Mauryas. Their officials, such as *paṇyādhyakṣa* and *saṁsthādhyakṣa* not only controlled the price but checked deception and determined the ownership of a commodity before it was sold[10] and examined weights and measures also.[11] Thus, Kauṭilya, lays the following injunctions for the superintendent of commerce and of markets[12]—

(i) Sale of some products owned by the state (*svabhūmija rājapaṇya*) is to be made through one market (*ekamukham*) and centralised imports through many markets (*anekamukham*).

1. *Jātaka*, Vol. IV. p. 81.
2. Ibid., Vol. I. p. 356.
3. *Milinda*, Vol. I. p. 2, Vol. II. p. 161.
4. Ibid., Vol. II. p. 279.
5. *Rāmāyaṇa*, I. 5, 10, 14, II. 16, 48, II. 17, 3–8. II. 48, 4, 35, II. 71, 41–42, II. 114, 13. *Rāmāyaṇa Kālīna Samāja*, p. 285.
6. *Jātaka*, Vol. I. pp. 121, 252, 269, 350, Vol. II. pp. 247, 431, Vol. IV. pp. 115, 223, Vol. V. p. 13, Vol. VI. pp. 276, 328.
7. *Vinaya*, Vol. I. p. 183.
8. *Pañca Sūdanī*, Vol. II. p. 586, *Buddha Kālīna Bhūgola*, p. 357.
9. *Pāṇinikālīna Bhārata*, p. 431. *Rāmāyaṇa Kālīna Samāja*, p. 235.
10. *Artha.*, IV. 2, 1.
11. Ibid. IV. 2, 2–15.
12. *Chandragupta Maurya and His Times*, pp. 114–16.

(ii) To regularise and control the supply, he must control stocks and issue licences (*anujñātāḥ*) to traders.

(iii) To withhold the unauthorised stock.

(iv) To impose restriction on sale in favour of state-trade.

(v) Not to allow the sale unless the ownership of a commodity is satisfactorily examined.

(vi) To examine the weights and measures used by the merchants and to punish those using false weights and measures.

(vii) To prevent adulteration of all kinds.

The above mentioned duties of the superintendent of commerce are comparable with the duties of the members of the fourth class of officers in the municipal administration of Pāṭaliputra as described by Megasthenes. [1]

It seems that during the Mauryan times there was keen competition between individual trade-enterprise and state-trading. Therefore, the law of commercial distribution was not uniform. We have noted above that hoarding and profiteering were crimes in the case of individual traders, [2] but they have been recommended for state-trading. [3]

To encourage and control foreign commerce was the most important duty of the superintendent of commerce. Kauṭilya has laid down that the superintendent should show favour to those who import foreign merchandise by a remission of the trade taxes. [4] The foreigners importing merchandise were also exempted from being sued for debts unless they were in partnership with the local trade-guilds. [5] Similarly, the superintendent had to be very careful in ascertaining the scope

1. *Ancient India as Described by Megasthenes and Arrian*, p. 87; *Strabo*, XV. 51; *Ancient India as Described in Classical Literature*, p. 54.
2. Supra, pp. 232-233.
3. Supra, p. 234.
4. *Artha.*, II. 16, 17.
5. Ibid., II. 16, 17.

of export of local produce into foreign countries. As regards the sale of the king's merchandise in foreign countries, Kauṭilya recommends that having ascertained the value of local produce as compared with that of the foreign produce that can be obtained in barter, the superintendent should find out by calculation whether there was any margin of profit left after meeting the payments to the foreign king, such as the toll, road-cess, conveyance-cess, and ferry charges.[1] But if no profit was to be realised by selling the local produce in the foreign markets, he was to consider whether any local produce can profitably be bartered with the foreign produce.[2] He was also to consider the security of route while exporting the local produce into the foreign markets.[3]

Besides the long term or permanent markets, there were some temporary or short term markets. Temporary or short term markets were for perishable goods and were located outside the towns at the city-gates. Thus, there was a market for fish at one of the gates of Śrāvastī, of green groceries at the four gates of the capital town of *Uttara Pāñcāla*, the venison shop at the cross roads outside Vārāṇasī.[4] There were four *nigamas* or market-towns located in the suburbs of the city of Mithilā.[5] Probably near the gates or outside the city there were slaughter-houses (*sūnā*)[6] and also the taverns (*pānāgāra or surāgāra*) for the sale of strong liquors.[7] Besides we get an instance of a market, which was organised once in a year on the border of the land of 'This' where a kind of primitive trade was conducted

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1. *Artha.*, II. 16, 22.
2. Ibid., II. 16. 23.
3. Ibid. II. 16, 24, 25.
4. *Age of Imperial Unity*, pp. 599–600; *Economic History of Ancient India*, p. 124; *Pre-Buddhist India*, pp. 281–32.
5. *Age of Imperial Unity*, p. 600.
6. *Jātaka*, Vol. III. p. 100, 378, Vol. V. p. 458, Vol. VI. p. 62, 276, 334.
7. Ibid., Vol. I. pp. 221, 252, 269, 350, Vol. II. 427, 431, Vol. IV. pp. 115, 223, Vol. V. p. 13. Vol. VI. p. 328.

between Indians and the tribe of Besatae.[1] *Āpaṇa* was also an important element of army-camp during campaigns.[2] We find that in the sculptures of Bharhut shops of grain and cloth have been shown[3] (Pl. IX, Fig. 2, 3; Pl. X. Fig. 2.). Similarly in one painting of Ajanta the shops of *tailika* and *gandhika* are depicted.[4] (Pl. VIII, Fig. 2).

It was also the duty of the government to control unfair business dealings in the market. We have referred above to measures which the government had to adopt to check the use of false weights and balances.[5] Government also punished the trader, who passed bad articles as good ones. Thus Kauṭilya has laid down that the sale or mortgage of articles such as timber, iron, brilliant stones, ropes, skins, earthware, threads, garments and woollen cloths as of a superior quality though they are really of an inferior variety, shall be punished with a fine eight times of the value of the articles thus sold. Similarly, when a trader sells or mortgages inferior as superior commodities; articles of some other locality, as the produce of a particular locality; adulterated things, or deceitful mixture; or dexterously substitutes other articles for those already sold, he shall not only be punished with a fine of 54 *paṇas* but also be compelled to make good the loss.[6]

Adulteration was a similar offence punishable by law. The *Jātaka* stories show that this was a crime and the traders who sold grains mixed with chaff went to *Tantalus* hell.[7] The *Arthaśāstra* specified the articles in which adulteration was a crime. Thus Kauṭilya says 'adulteration of grains, oils, alkalis, salts, scents, and medicinal articles with similar articles of no quality shall be punished with a fine of 12

1. *Periplus*, 65 p. 279. Mbb., Udyoga. 151, 58, 153, 36.
2. *Pāṇini kālin Bhārat*, p. 431.
3. Barua, Burhut. Pls. XLV Fig. 143. LXXVI. Fig. 102. XCV. Fig. 148.
4. *Haringama, Ajantā*, Pl. VIII. Fig. 10.
5. Supra, pp. 194-195, 203-204; *Artha.*, IV. II. 3-18.
6. *Artha.*, IV. 2, 15-16.
7. *Social and Rural Economy*, pp. 283. 84.

paṇas.'[1] Manu has also condemned persons committing aluderation to gain profit.[2] Yājñavalkya has recommended a fine of 16 *paṇas* to be imposed on a trader, who adulterated articles such as medicines, oil, salt, perfumes, grain, sugar and the like, kept for sale.[3] Similarly, he has said that if hide, iron, wood, bark, cloth, gem, yarn, are not of good quality the fine should be eight times the amount of the sale price.[4] He has also recommended a fine for a man selling artificial things as real ones.[5]

The account of Megasthenese confirms the above mentioned system of market-control. Thus, he says that the fifth body of the Mauryan municipal administration supervised manufactured articles and sold them by public notice. What was new was sold separately from what was old, and there was a fine imposed for mixing them together.[6]

Some interesting information can be presented about the process of sale and purchase. Hawkers used to attract the attention of their customers by crying out the names of commodities. Thus the *Serivāṇija Jātaka* informs that a trader in the city of Anuradhapura used to sell pots and pans by crying out the names of his commodity. (*Maṇike gaṇhathā, maṇike gaṇhathā ti vicaranto gharadvāra pāpuṇi*).[7] Before the price was asked the customers used to examine the commodity.[8] After the examination was over, it was a custom to open the deal by asking the price. If the price was found satisfactory or after haggling a settlement on price was arived at, the

1. *Artha.*, IV. 2, 23.
2. *Manu*, XI. 50.
3. *Yāj.*, II. 245.
4. Ibid., II. 246.
5. Ibid., II. 247-48.
6. Strabo, XV. 51; *India as Described by Megasthenes and Arrian*, p. 86; *India as Described in Classical Literature*, p. 54.
7. *Jātaka*, Vol. I. p. 111.
8. *Milinda*, Vol. I. p. 272.

customers paid the price and took over the commodity.[1] Sometimes the customers used to leave the commodity with the seller even after the payment of the price. In such cases, if any change in the nature and quality of the commodity occurred not due to any fault of the seller, the purchaser had no right to sue the seller for damages.[2]

Things were also sold on payment of earnest money, which was called *satyāpaṇa.* This has been referred to in the *Aṣṭādhyāyī* as *satyāpayati.*[3] In the *Arthaśāstra* this system has been mentioned as *anuśaya,*[4] The same system is referred to in the *Yājñavalkyasmṛti* as *satyaṅkārakṛta.*[5] Instead of depositing the earnest money, sometimes the traders used to purchase stocks by showing the signet ring.[6] A large number of seals found in different sites of Northern India suggest their similar use. Bhita seals discovered by Sir John Marshall bear the legend *Śahijitiya nigamaśa.*[7] Such seals were used most probably, by joint stock trade of guilds. Some seals discovered in low level of Basarh, indicate that they were used by the guilds of bankers.[8] Tampering with the seals was a crime and was punished severely.[9]

Besides, the system of sale by payment of only earnest money the goods were also sold by shop-keepers on payment of the price in advance. In some *nigamagāmas* rice was distributed among the Buddhist monks probably under this system.

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1. We quote here a passage from *Divyāvadāna.* to indicate the manner in which price was asked and the sale was made. भो पुरुष, कियता मूल्येन दीयते ? पंचभिः कार्षापणशतैः । *Divyāvadāna*, p. 19.
2. *Milinda*, Vol. I. p. 78 II. 2, 6, 17.
3. *Aṣṭādhyāyī*, III. 1. 25. VI. 3, 70; *India as known to Pāṇini*, p. 240.
4. *Artha.*, III. 15, 10; See *Hindi translation of Artha.* by Pt. Ganga Prasad Śāstri, p. 292.
5. *Yāj.* II. 61; *India as known to Pāṇini*, p. 246.
6. *Jātaka*, Vol. I. p. 123.
7. *A. S. I. R.*, 1911–12 p. 47. *Local Government in Ancient India*, pp. 111–12.
8. D. B. Spooner, *A. S. I. R.*, 1913–14, p. 122, Pl. L.
9. *Artha.*, II. 21, 3–7.

The donors used to deposit the advance price in the shops of such *nigamugāmas* and then the shop-keepers distributed the rice among the monks, who brought tickets (*salākā*) from the donor. [1] Similar was the system of *cīvaracetāpaṇṇa*. [2] Under this system the donors used to deposit money as price for *cīvara* to be given to the monks. *Cetāpaṇṇa* has been explained by the *Aṭṭhakathā* as *hiraññva*, *suvaṇṇa*, *muttā*, *maṇi*, *pabāla*, *phaliko*, *paṭako*, *sutta* and *kappāsa*. [3]

A very peculiar mode of sale and purchase has been mentioned in the *Periplus*. [4] This informs us that a sort of silent trade [5] was carried between some Indian tribes and the tribe of Besatae. [6] The mode of trade is described in the *Periplus* thus—'They come with their wives and children, carrying great packs and plaited baskets of what looks like green grape-leaves. They meet in a place between their own country and the land of 'This'. There they hold a feast for several days, spreading out the baskets under themselves as mats, and then return to their own places in the interior. And then the natives watching them come into that place and gather up their mats; and they pick out from the braids the fibers which they call *'petri.'* They lay the leaves closely together in several layers and make them into balls, which they pierce with the fibers from the mats...... It is brought into India by those who prepare it [7]

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1. *Jātaka*, Vol. II. p. 289.
2. *Vinaya*, Vol III. p. 216, *Kaccāyana*, (Senart) p. 322.
3. चीवरचेतापण्णं नाम हिरञ्ञं वा सुवण्णं वा मुत्ता वा मणिं वा पवालो वा फलिको वा पटको वा सुत्तं वा कप्पासो वा। Ibid., Vol. III. p. 216–17. *Cetāpaṇṇa* has been explained in the *Pali-English Dictionary*, p. 104 as barter. In Buddhist Sanskrit *'Cetāpaṇaka* is *cetānaka*.' *Pātimokkha*, *Journal Asiatique* XI. 2 (1915) p. 242. *Cetānaka* is also understood for price. F. Edgerton, *Buddhist Hybrid Sanskrit Dictionary*, p. 232.
4. *Periplus*, p. 65.
5. Ibid., p. 281.
6. Ibid., p. 65. It was a *Tibeto-Burman tribe*. Ibid. pp. 278–279.
7. Ibid., 65. A parallel account of such trade is mentioned in the *Herodotus*, IV. 196. The Carthaginians used to purchase gold from Libians almost in the same manner as Indians purchased Malabatbrum or *tamāla* from the Besatae tribe. Ibid., pp. 279–281.

For the settlement of commercial disputes there were regular courts. The main topics of commercial disputes (*vivādapāda*), according to Kauṭilya, Manu and Yājñavalkya were, *ṛṇādāna* (debt), *nikṣepa* or *upanidhi* (deposit), *asvāmivikraya* (sale without ownership), *vetansyānapākarma* or *samayasyānapākarma* (violation of contract and conventions) *krayavikrayānuaśya* (rescission of purchase and sale). [1] But these topics do not exhaust all the topics of commercial disputes. The kings had their jurisdictions far beyond the narrow limits of the above mentioned topics of *vivādapāda*. [2] But in any case the judgements of kings were to be based on the law of guilds (*śrenidharma*) and the customs and conventions (*samaya*) of traders and manufacturers. The customs of traders, artisans etc., if not opposed to the spirit of *dharma*, were to be given due recognition by the kings [3] Manu has pointed out that the success of the judiciary in relation to traders depended on the kings. They should not ignore and disrespect the law of the guilds. [4] Kauṭilya has advised that king's accountant must enter in his records the laws and customs of the guild. [5] Kings were also advised by the law-givers to include in their courts some merchants so that they may properly guide while dispensing with commercial disputes. [6] Sometimes, dispute arose when traders repented having made a bad sale or purchase. [7] Manu lays down a general rule that 'whenever a person after making a purchase or sale repents, he may return or take-back the thing purchased or sold within ten days. [8] But this rule was not universally applied. In ordinary sale and purchase, the deal was considered complete after the delivery of goods and the payment

1. *History of Dharmaśāstra*, Vol. III. p. 249.
2. Ibid., Vol. III. p. 248.
3. *Gautama Dharma Sūtra*, XI. 20 , XI. 22; *Local Government in Ancient India*, p. 125.
4. *Manu.*, VIII. 41.
5. *Artha.*, II. 7, 2.
6. *History of Dharmaśāstra*, Vol. III. p. 275.
7. Ibid., Vol. III. p. 489. *Manu.*, VIII. 222.
8. *Manu.*, VIII. 222.

of price. This rule was universally accepted during the Ṛgvedic period. In a '*sūkta*' it is said that if a person has sold a thing and afterwards realising that he has obtained less price, goes to the purchaser and demands more price, he cannot get it, for, a price once settled is the final price. [1] Kauṭilya and Yājñavalkya, in order to avoid this inconvenience, have advised the purchasers to examine fully the commodity before purchasing. [2] Yājñavalkya recommends that seed, metal, beasts of burden, jewels, slave girls, milch-cattle and male servants are to be put on trial and examined before final purchase for, three days and half a month respectively. [3] During the prescribed trial period some commodities were liable to lose their weight and quantity. Therefore, Yājñavalkya fixed a limit for the reduction, beyond which if the loss was caused, the purchaser was to be punished and fined. [4] The guidance in levying the fines may be taken according to Yājñavalkya, of those who are expert in the respective articles. Thus he says 'when a thing had deteriorated, whatever the experts in those articles may declare after taking into consideration the place, the time, the use and the strength or weakness, must certainly be caused to be paid.' [5]

Kauṭilya has pointed out that the kings and their councillors (*sabhāsada*) should settle the dispute concerning rescission of purchase and sale in such a manner that neither the giver nor the receiver might be put to loss. [6] He has laid down the general rule [7] that a merchant refusing to deliver his merchandise after the completion of the sale shall be punished with a fine of 12 *paṇas* unless the merchandise is proved to be intrinsically bad, or dangerous or intolerable. [8]

1. *R. V.*, IV. 24, 9.
2. *Artha.*, III. 15, 3, 4. *Yāj.*, II. 177.
3. Ibid., II. 177.
4. Ibid., II. 178-80.
5. Ibid., II. 180.
6. *Artha.*, III. 17, 26.
7. Ibid., (S) p. 212.
8. Ibid., III. 15, 1.

A similar rule was applied in the case of a refusal by the purchaser also.[1] Kauṭilya has prescribed one day for rescission in case of merchants.[2] In case of cultivators and herdsmen the time for rescission was three to five nights. The period of rescission was however extended upto seven nights in case of sale or barter of precious things and articles of mixed qualities.[3]

We have mentioned above that *asvāmivikraya* was one of the important items of commercial law. The rightful manner of purchasing a thing, according to Manu, was to purchase from a market, in the presence of a witness. In this case the purchaser acquired that property with a clear title obtained by legal purchase.[4] But if a purchaser purchased a thing not publicly or from a very low man, or in secret, or at a very low price or at an unusual time, he was considered a thief and his purchase was considered void.[5] But if a buyer purchased a thing in a market from one who was not the owner, he was to incur no blame and no punishment. But he had to hand over the article to the real owner.[6] If the purchaser could trace out the seller from whom he had purchased, it was the seller who was to be punished. The purchaser was given the price that he had paid to the original seller and the thing was to be returned to the real owner.[7] It was considered to be the duty of the purchaser to trace out the seller, but if due to unavoidable reasons he could not do so, he was not held guilty of theft.[8] In all such disputes, as Kauṭilya says, the owner of the

1. *Artha*, III. 15, 12.
2. Ibid., III. 15, 6.
3. Ibid., III. 15, 9.
4. *Manu.*, VIII. 201.
5. *Yāj.*, II. 168.
6. *Vasiṣṭha Dharma Sūtra*, V. 164–66, *History of Dharmaśāstra*, Vol. III. p. 463; *Manu.*, VIII. 207.
7. *Yāj.*, II. 170; *Artha.*, III. 16, 16.
8. *Yāj.*, II. 169; *Artha.*, III. 16, 15.

commodity must go to the court of the king.[1] In case the owner takes possession without the order of the court, he was punished with the first amercement.[2]

The practice of imposing tax on trade was introduced in ancient India since the early days. Traders, like the people of other sections of the society, had a sort of contractual obligation to pay the tax to the kings, who were regarded traditionally as '*ṣadbhāgabhṛt*' for their protection of the people in general (*rakṣet-prajām*).[3] The payment of taxes was obligatory because the very existence of trade and commerce depended upon the patronage and protection of the governments.[4]

For the fixation of the rate of tax of commerce the *Mahābhārata* as well as the *Manusmṛti* present identical views. They say that having well considered (the rate of) purchase and (of) sale, (the length of) the road, (the expense for) food and condiments, the charges of securing the goods, let the king make the traders pay duty.[5]

Moderation was the inherent quality of the scheme of ancient Indian taxation and it has been explained by ancient law-givers with apt similies and metaphors. Manu says that king should tax his people just as the leach, the calf and the bee take their food little by little.[6] Similarly, the principles of moderate taxation, have also been explained in the *Mahābhārata*.[7] Kauṭilya also advised kings to tax moderately. Thus, he says that a king should pluck the ripe fruits from his kingdom just as one gathers them from a garden, but

1. *Artha.*, III. 16, 12–13, 21.
2. Ibid., III. 16, 21.
3. *Baudhāyana Dharma Sūtra*, I. 10,18, 1; See also. *Gautma Dharma Sutra*, X. 27; U. N. Ghosal, *Hindu Revenue System*, pp. 17–18; *Mbh. Śanti*, 71–10; *Jātaka*, IV. p. 135; *Social and Rural Economy*, p. 319.
4. *Rāmāyaṇa*, II. 67, 11.
5. *Mbh. Śānti* 87, 13; *Manu*, VII. 127.
6. *Manu*, VII. 129.
7. *Mbh. Śānti* 71, 20; 87, 21–88, 4–6.

should not take unripe fruits which cause provocation, lest this should bring about his own ruin. [1] Evils of over-taxation have also been pointed out in the *Mahābhārata*. [2]

Dr. U. N. Ghoshal has noted the following three maxims about the ancient Indian taxation system : [3]

(a) 'that the taxation should not destroy the subsistance of the people, but should leave ample margin for their subsistence.

(b) that the taxes should be levied by slow, almost imperceptible degrees, not all in a lump, and

(c) that it should be levied at the time and place most suitable for the subjects.'

According to the *Vinaya Piṭaka* the kings used to fix the custom-posts (*suṅkaghāṭa*) on hills, at bathing places, on rivers and on the gates of villages for the collection of toll. [4] Toll-houses were situated on the four gates of the cities where they were collected on incoming goods. [5] The custom-houses were called *saṅkaṭṭhanā* [6] or *śulkaśālā*. [7] According to the *Arthaśāstra*, *śulkśālās* were maintained by the superintendent of customs (*śulkādhyakṣa*). [8] The office of this superintendent was indicated by a flag (*dhvaja*) which used to be at the main gate of a town. The superintendent was assisted by four to five subordinate collectors of customs. They registered full details about the merchants and their commodities. [9] In the *Divyāvadāna* there is description of Rājagṛha

1. *Artha.*, V. 2. 82.
2. *Mbh.*, *Śānti.* 71-15-20; 87-36-40.
3. *Hindu Revenue System*, pp. 22-23; see also. Rangaswami Aiyangar, *Ancient Indian Economic Thought*, pp. 132-134.
4. *Vinaya*, Vol. III. p. 52; *Hindu Revenue System*, p. 88.
5. *Jātaka*, Vol. IV. p. 132.
6. *Vinaya*, Vol. III. p. 4.
7. *Artha.*, II. 21. 1. etc.; *Divyāvadāna*. p. 171.
8. *Artha.*, II. 21, 1.
9. Ibid., II. 21, 1-7.

śulkaśālā, which had a bell. The bell used to ring automatically whenever any merchant tried to pass the city gate without paying the tax. [1]

The taxes on the merchandise were fixed by the city-officers. [2] In the Mauryan Government, *sannidhātṛ* was the supreme collector of taxes, though *paṇyādhyakṣa* (superintendent of merchandise) and *saṁsthādhyakṣa* (superintendent of market) also were the officials incharge of taxation. [3] Manu opines that persons having experience of toll-collection and skilled in estimating the value of all kinds of merchandise should fix the value for each commodity. [4] But according to the *Arthaśāstra*, the fixation of value of commodities was made by the merchants and they were punished if they under-estimated the value of their commodities in order to avoid the tax. [5]

The normal rate of taxation as approved by law-givers was 1/20 of the merchandise, which was generally paid in cash. [6] But the rate varied according to circumstance and situation. Thus for certain commodities Baudhāyana prescribes a rate, which was to be paid in cash and partly in kind. He says that 'the king should charge for goods imported from the sea a duty of 10 *paṇas* in the hundred together with a choice article, and for other commodities duties varying according to their intrinsic value, but not the choice article.' [7] Viṣṇu provides a rule of 1/10 on local produce and 1/20 on foreign produce. [8] Kauṭilya has framed a regular table of tolls (*śulka vyavahāra*). [9] Goods were classified according

1. *Divyāvadāna*, pp. 170–171; *Sārthavāha*, pp. 142–143.
2. *Jātaka*, Vol. IV, p. 132.
3. *Artha.*, II. 16; IV. 2.
4. *Manu.*, VIII. 398.
5. *Artha.*, II. 21, 12–13.
6. *Gautama Dharma Sūtra*, X. 26, 35; *Manu*, VIII. 398; *Yāj.*, II. 266.
7. *Hindu Revenue System*, p. 82.
8. Ibid., p. 82; *Viṣṇu Dharma Sūtra*, III. 29, 30.
9. *Artha.*, II. 22.

to the tolls charged on them. Thus there were three classes of goods—

1. grown on the countryside (*bāhya*)
2. produced within the city (*ābhyantara*) and
3. imported from abroad (*ātithya*). [1]

Though tolls were levied on export as well as on import, Kauṭilya has fixed the rate of import-tax only. [2] Normal rates of import-duty on commodities was 1/5. For all perishable commodities such as fruits, vegetables, fish, and meat the tax was 1/6. For precious commodities like conch-shell, diamond, jewels, pearls and coral there was no fixed rate. In such cases tolls were to be fixed according to the value determined by the experts. But for commodities like silk, linen, metals, wines and ivory the toll to be levied was either 1/10 or 1/15. On ordinary and day to day use commodities, such as cloth, animals, slaves, threads, cotton, scents, medicines, sugar and salt the prescribed tax was either 1/20 or 1/25.[3]

Traders during the Mauryan times had to pay gate-dues also (*dvāradēya*) and it contributed to the government a substantial revenue. [4] Normally the gate-dues to be paid by the merchant while entering the city was 1/5 of the *śulka* to be paid on the commodity. [5] In some cases, a rebate on gate-dues (*ānugrāhika*) was also granted by the Mauryan officials. [6]

Traders had to pay some other dues also besides the normal tax (*śulka*). Some of them were known as *vartani* (transit-dues) *ātivāhika* (escorting fees) *gulmadeya* (fees paid at the military stations) *taradeya* (ferry-dues) *bhāga* (king's share). [7] The *Divyāvadāna* also refers to some of these dues as *śulka, gulma* and *tarapaṇya.* [8]

1. *Artha.*, II. 22; *Chandragupta Maurya and his Times*, p. 117.
2. Ibid., II. 22. 1–2.
3. *Artha.*, II. 22. 3–7.
4. Ibid., II. 22. 8; *Hindu Revenue System*, p. 64.
5. *Artha.*, II. 22. 8.
6. Ibid., II. 22. 8.
7. Ibid., II. 16. 22.
8. *Divyāvadāna*, pp. 2, 59, 437 etc.

The transit-dues to be levied by the boundary-officer (*antapāla*) were fixed at the following rates [1]—

1. 1¼ *paṇa* as road cess on each load of merchandise,
2. 1 *paṇa* on single hoof animal,
3. 1/2 *paṇa* on each head of cattle,
4. ¼ *paṇa* on a minor quadruped and
5. 1 *māṣa* on a head-load of merchandise.

The ferry-taxes were also fixed by the Mauryan government at the following rates [2]—

1. On a minor quadruped as well as on a man carrying some load 1 *māṣa.*
2. On a head load, a load carried on shoulders (*kāyabhāra*), a cow and 2 *māṣas* on each.
3. On a camel or on a buffalo 4 *māṣas.*
4. On a small cart (*laghuyāna*), 5 *māṣas*, and on a cart (of medium size) drawn by bulls (*goliṅga*) 6 *māṣas*; and on a big cart (*śakaṭa*) 7 *māṣas.*
5. On a head load of merchandise ¼ *māṣa.*

These ferry-rates were ordinary rates. On big rivers, the ferry-dues were just the double of the above mentioned rates. [3] Similarly, in cases of ordinary rivers these dues were small and sometimes could be paid in kind (*bhaktavetana*). [4]

In the scheme of Manu the *taradeya* was fixed in the following scale [5]—

1. 1 *paṇa* for an empty cart,
2. ½ *paṇa* for a man's load,
3. ¼ *paṇa* for an animal or an woman,
4. ⅛ *paṇa* for a man without load,
5. The rate of ferry-tax on a loaded cart was fixed according to the value of the commodity loaded (*bhāṇḍapurṇāni yānāni tāryaṃ dāpyāni sārataḥ*).

1. *Artha.*, II. 21. 28–29.
2. Ibid., II. 28. 27–34.
3. Ibid., II. 28–35.
4. Ibid., II. 28–36.
5. *Manu.*, VIII. 404–406. See also *Yāj.*, II. 263.

6. For an empty vessel and a man without luggage the ordinary tax was to be fixed by the ferry-men.
7. In case of trade on a long route, the ferry rates were to be fixed according to the consideration of time and distance.
8. Special rates were to be fixed in case of maritime trade.

In the Kauṭilyan scheme of taxation a few things, mostly of ritualistic importance were exempted from taxation. [1] In the *Divyāvadāna* there is a reference to tax-free commodities (*aśaulkika*). [2] But government officials were required to watch carefully that no one avoided payment of the tax and smuggled things by telling a lie and presenting articles of trade as of ceremonial significance, though they did not belong to that category. [3]

Strict measures were adopted to check smuggling of commodities. It was an offence and in the eye of law [4] the smugglers were held guilty. Once one *bhikkhu* was caught by state officials along with some other men who were smugglers, [5] while a Brāhamaṇa of Rājagṛha could not be detected and passed thrice the city gate without paying the tax. He was smuggling *'yamli'* by hiding it in his stick. [6]

Kauṭilya has suggested that if a trader passes the toll-house without paying the proper tax, he should be fined eight times the amount of the toll due from him. [7] Even partial evading of tax was severely punished; [8] sometimes with the highest amercement. [9] Similarly Manu and Yājñavalkya also

1. *Artha.*, II. 21, 22.
2. *Divyāvadāna*, p. 105–108.
3. Ibid., II. 21–23.
4. *Aṅguttara Nikāya*, Vol. I. p. 53.
5. *Social and Rural Economy*, p. 322.
6. *Divyāvadāna*, p. 171.
7. *Artha.*, II. 21. 20.
8. Ibid., II. 21. 24.
9. Ibid., II. 21–25.

recommend a fine of eight times than the amount of the toll due from the smugglers. [1]

The conception of the contraband goods was not altogether unknown in ancient India. In the *Arthaśāstra* we find a list of forbidden goods. [2] The sale of such goods was punished severely.

Sometimes a restriction was imposed on the sale of some commodities to safe-guard the interests of state-owned trade. [3] We get also instances of the imposition of restrictions by the kings to the interests of their favourite traders. [4] The system of permit and licence is also indicated in the *Arthaśāstra.* [5]

With the progress of trade and commerce, usury (*kusīda*) also became progressive as an important element of *vārtā.* Though the conception of *ṛṇa* was present in the Vedic times, there is no reference in the Vedic literature to suggest that the debts were contracted to serve economic interests. [6] In the time of the *Gautama Dharma Sūtra* it became a means of lawful occupation together with tillage, cattle-breeding and trade. [7] Pāṇini mentions *kusīda* [8] and several terms associated with the money-lending and banking, such as *uttamarṇa* (creditor), *adhamarṇa* (debter), *ṛṇa* (loan), *vṛddhi* (interest)[9] etc. In the time of the *Jātakas*, it became quite a common thing to start a business by contracting a loan of commodities on interest (*iṇaṁ adāya*), [10] The *Dīgha Nikāya* informs us about the *gahapatis*, who offered money as a loan for trade

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1. *Manu*, VIII. 400; *Yāj.*, II. 262.
2. *Artha.*, II. 21. 26, 39.
3. Ibid., IV. 2. 35, 36.
4. *Divyāvadāna*, p. 178.
5. *Artha.*, II. 12, 43.
6. *R. V.* X. 34; *A. V.* 119. L. Gopal, 'Credit Laws in Ancient India,' *Mirashi Felicitation Volume*, p. 444.
7. *Gautama Dharma Sūtra*, X. 48; Supra., p. 21.
8. *Aṣṭādhyāyī*, IV. 4, 31.
9. *India as known to Pāṇini*, p. 274.
10. *Social and Rural Economy*, p. 337.

to those shop-keepers, who were shrewd, clever and resourceful.[1] Sometimes merchants transacted between themselves on credit without any security, but sometimes big deals were made on the credit of a signet-ring.[2] Loans were also confirmed by means of a written bond or agreement.[3]

Business was financed not only by individual bankers, such as the *seṭṭhis*, but also by the guild-banks.[4] The banking operation of guilds is fully corroborated by the inscriptional evidences. Thus, two inscriptions of Nasik (Luders' list Nos. 1133, 1137) and three inscriptions of Junnar (Luders' list Nos. 1162, 1165, 1180), and a number of fragmentary inscriptions throw a flood of light on the function and organisation of the ancient guild-banks.[5] Similarly, a study of some seal-inscriptions from Bhita and Basarh referring to guilds of bankers (*śreṣṭhinaḥ*) is also useful in this connection.[6]

The rate of interest on general loans was usually followed in case of commercial loans also. But the prescribed rates, however, were not uniform; they varied from time to time and place to place. Pāṇini mentions a rate of interest in the expression *daśaikādaśa*,[7] the creditor, who gets back *ekādaśa* by lending[8] *daśa*. This amounts to the rate of about 10%. He also refers to a much lower interest of half a *kārṣāpaṇa* per month called *ardhya* or *bhāga*.[9] The *Dharmasūtras* also prescribe different rates. According to Baudhāyana and Gautama the specified rate of interest was 15%.[10] This rate was approved by Kauṭilya

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1. *Dīgha Nikāya*, Vol. II. p. 69; *Social and Rural Economy*, p. 338.
2. *Jātaka*, Vol. I. pp. 121, 227.
3. Ibid., Vol. IV. p. 262; *Manu*, VIII. 154.
4. *Artha.*, IV. 1, V. 2.
5. *Corporate Life in Ancient India*, pp. 8–10.
6. Ibid., pp. 11 to 14; *A. S. I. A. R.* (1911–12. Nos. 56–58).
7. *Aṣṭādhyāyī*, IV. 4, 31.
8. *India as known to Pāṇini*, p. 275.
9. *Aṣṭādhyāyī*, V. 1. 48–49.
10. *Baudhāyana Dharma Sūtra*, I. 5, 10, 25; *Gautama Dharma Sūtra*, X. 6.

and Manu also.[1] Vasiṣṭha has prescribed a higher rate, i.e., 18¾% per annum.[2] But in some special cases he had allowed 24%, 36%, 48% and 60% per annum.[3] Some special forms of interest are mentioned in the *Gautama Dharma Sūtra.*[4] Similarly, for certain special type of commercial transactions, such as maritime trade, these normal rules were not applicable. Thus, in the Kauṭilyan scheme the interest on commercial loans was higher than the ordinary loans. He had suggested that 'an interest of a *paṇa* and a quarter per cent per month is just. Five *panas* per cent per month is commercial interest (*vyāvahārikī*). Ten percent prevails among forests. Twenty *paṇas* per cent per month prevails among sea-traders (*sāmudrāṇām*).'[5] Manu prescribes no fixed rates of interest on commercial loans contracted by traders on land-route as on the sea-routes. He says that the decision of payments to be made in transactions concerning them depended upon experts in sea-voyages able to calculate the profit according to the place, and the time, and the object carried.[6] Yājña-valkya has suggested that 'merchants, who carry on trade traversing dense forest and sea-faring traders respectively had to pay 10% and 20% per month.[7] Some of the guild-banks contracted loans on the lower rates than the traditional ones prescribed by the *śāstras.*[8] Nasik cave inscriptions indicate that the rate of interest on the fixed deposits was 12% and 9% per annum.[9]

It is suggested that several states of ancient India sent

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1. *Artha.*, III. 11. 1; *Manu*, VIII. 140.
2. *Vasiṣṭha Dharma Sūtra*, VI. 6.
3. Ibid, II. 48.
4. *Gautama Dharma Sūtra*, XII. 34, 35; See also *Manu*, VII. 156.
5. *Artha.*, III. 11. 1-4.
6. *Manu*, VIII. 157.
7. *Yāj.*, II. 38.
8. Supra., p. 252.
9. *Corporate Life in Ancient India*, p. 10, *Local Government in Ancient India*, p. 98; *Social and Rural Economy*, p. 350.

embassies to Rome and other countries. [1] No doubt that India since early days, had political relations and exchange of embassies with the countries outside India, [2] it is however difficult to determine the economic nature and consequences of the so called embassies. Particularly, about the Indian embassy received by the Roman emperor Augustus [3] in 26 B. C., it is difficult to say whether it was a company of jugglers out with Indian curios or a group of authorised members of any embassy, approaching the Roman court with some economic motive.

It is, however to be pointed out that the possibility of Indian traders visiting Roman court or any such countries, in their private capacity, is not altogether ruled out. Similarly, Indian royal courts were also visited by traders. A relief of Amarāvatī represents a court scene in which a king is shown receiving presents from the traders. [4] (Pl. IX. Fig. 1.)

Religion had profound influence on trade and commerce and its conventions. Traders in ancient India gradually held this belief that the success of their trade depended greatly upon divine favour. Therefore, they performed certain rites and worshipped different gods for their success in trade. Thus, in the *Rgveda* Agni is hailed as a patron of trade. [5] Similarly, Aśvins, Soma, Indra and Marut also are offered prayers by traders. It was a custom among the Vedic traders to worship the sea before commencing their maritime trade. [6] The *Yajur Veda* makes a special reference to Rudra as the

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1. *Strabo*, XV. 1, 23, XV. 1, 4; *Commerce between Roman Empire and India*, p. 67; *Studies in Roman Economic and Social History*, p. 140.
2. *Nāgarī Pracāriṇī Patrikā*, Vikramāṅka, pp. 271–274.
3. *Strabo*, XV. 1, 73; Priaulx, O. de B. *The Indian Travels of Apollonius of Tyana and the Indian Embassies to Rome*, pp. 130–131; *Early Indian Economics*, pp. 130–131.
4. C. Sivaramamurti, *Amaravati Sculptures in the Madras Government Museum*, Pl. XXV. 2.
5. *R. V.*, X. 156. 3.
6. Ibid. IV. 55. 6.

god, who protects trade.[1] The famous *Vaṇika sūkta* of the *Atharvaveda*[2] was especially recited to gain success in commercial enterprise.[3] Similarly, during the age of the *Sūtras* a rite called *paṇyasiddhi* (ensuring success in trade), was performed in which a portion of the particular article of trade is cut off and sacrificed in the fire with the prayer 'if we carry on trade to acquire (new) wealth by means of our (old) wealth, may Soma, Agni, Indra, Bṛhaspati and Īśāna prosper that.'[4]

Similarly, in later periods the gods such as Śiva, Varuṇa, Kubera became popular among the traders.[5] Traditionally the number of deities,[6] who were respected by the traders was counted in thousands. Perhaps this number included some of the local and family deities.[7] Yakṣas were regarded as guardians of trade. Maṇibhadra, Vaiśravaṇa, Kubera and Vināyaka, the three deities of the Yakṣa-cult, were worshipped by the traders. The *Sārthavāhas* considered the negligence of worship of these gods as unpropitious for the safety of their caravans. In the *Nalopākhyāna* of the

1. नमो नमो मंत्रिणे वाणिजाय Y. V. XVI. 19.
2. *A.V.* III. 15.
3. By commenting on *A. V.* III. 15. *Kauśika* says अनेनैव सूक्तेन पण्यकामः इन्द्रं यजेत उपतिष्ठते वा। सूत्रितम् "इन्द्र, अहं इति पण्यकामः" *Kauśika Sūtra*, X. 10. Similarly, Sāyaṇa says that this hymn starting with इन्द्रमहं is applied in a ritual for profit in commerce. 'इन्द्रं अहं वणिजं इति वाणिज्यलाभार्थः see also *Proceedings of Indian History Congress*, 1953, p. 30.
4. *Hiraṇyakeśin Gṛhya Sūtra*, I. 15, 1; *Social and Religious Life in the Gṛhya Sūtras*, p. 159; *Vedic Age.*, p. 524.
5. *Avadāna Śataka*, p. 201.
6. तानि देवतासहस्राण्यायाचन्ते-तद्यथा-शिववरुणकुबेरवासवादीनि। *Avadāna Śataka*, p. 33. यावदन्ये वणिजो देवतासहस्रण्यायाचितुं प्रवृत्ताः। आहुश्च शिववरुणकुबेरा वायुरग्निर्महेन्द्रो। Ibid., p. 201.
7. Such family deities are referred to in the *Avadāna Śataka* as स्वदेवता. While launching ships for trade, the traders used to worship such family deities repeatedly. स द्विरपि, त्रिरपि स्वदेवतायाचनं कृत्वा महासमुद्रमवतीर्णो। Ibid., p. 11.

Mahābhārata there is a story of a caravan, which suffered ravages due to a sudden attack by wild elephants. The members of that caravan thought that it was due to the wrath of Maṇibhadra, Vaiśravaṇa and Vināyaka, to whom they did not offer worship before starting on their journey. [1]

An image of Maṇibhadra in free standing style has been discovered from Pawāyā (now in the Gwalior Museum). [2] The image dates from the beginning of the Christian era [3] and bears an inscription which reads '*Gauṣṭhyā Maṇibhadrabhaktā garbhasukhitāḥ Bhagavato Māṇibhadrasya pratimā pratiṣṭhāpayaṃti.*' [4] (the image of Bhagavān Maṇibhadra is being established by the guild of the worshippers of Maṇibhadra). Certain Buddhist and Jain texts clearly lay down that Maṇibhadra was the name of a Yakṣa. The *Saṃyutta Nikāya* refers to the Maṇimāla Caitya in Magadha as the haunt of the Yakṣa Maṇibhadra and the Sūrya *Prajñapti*. [5] An ancient Jaina text tells us that a Maṇibhadra Caitya stood to the north-east of the city named Mithilā. [6] According to the *Mahāmāyūrī*, Maṇibhadra was worshipped in Brahmavatī (in the region of Varṇu and Gandhāra. [7] The *Mahāniddesa* mentions the cult of Maṇibhadra and Purṇabhadra. [8] According to

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1. तेऽब्रुवन् सहिताः सर्वे कस्येदं कर्मणः फलम् ।
   नूनं न पूजितोऽस्माभि मणिभद्रो महायशाः ॥
   तथा यक्षाधिपः श्रीमान् न वै वैश्रवणः प्रभुः ।
   न पूजा विघ्नकर्तृणामथवा प्रथम कृता ॥ This occurs in the *Mbh.*, of Gita Press edition. (Vana-65-22-23) and in the Kumbha Konam edition (Vana 62-22-23). But, these lines are not incorporated in the Poona edition (Vana 62-10-11).
2. *A. S. I. A. R.*, 1915-16 p. 106, *J. R. A. S.*, 1928 p. 21.
3. Stella Kramrisch, *Indian Sculpture*, p. 39.
4. Quoted by J. N. Banarjea. *Development of Hindu Iconography*, p. 97.
5. *Saṃyutta Nikāya*, I. 10, 4.
6. *Development of Hindu Iconography*, p. 97-98.
7. Ibid., p. 98. *Journal Asiatique*, 1915 p. 38.
8. R. G. Bhandarkar. *Vaiṣṇavism, Śaivism and Minor Religious Systems*, p. 3.

the *Mahāmāyūrī*, Pūrṇabhadra and Maṇibhadra were brothers.[1] That Maṇibhadra was worshipped as *Bhagavān* is clear from the inscription on the Pawaya sculpture.[2] A. Coomarswami has suggested that the figure of Maṇibhadra must have been housed in some kind of structure[3] (temple ?). Pawaya (Padmāvatī), Magadha, Mithilā and Gandhāra[4] were the main centres, where the worship of Maṇibhadra was popular. At all these centres, trade was prosperous and trade-routes passed through them to distant places. Therefore, it can be suggested that Maṇibhadra was perhaps the guardian-deity of the land-traders and protected land-trade-routes. Similarly, Puhāra and Kāñci, the two important emporiums of maritime trade, had temples of Maṇimekhalā, the guardian deity of sea appointed by the four guardians of the world.[5] She was found ever vigilant in protecting and saving the virtuous victims of the ship-wreck. Her jurisdiction was the vast ocean between Cape Comorin and Lower Burma.[6] She was, thus, the guardian deity of sea-routes.

The goddess Śrī Lakṣmī was also held with much esteem among traders. 'The principal idea underlying the conception of the goddess Śrī Lakṣmī is that of good fortune or luck which brings in blissfull prosperity and abundance. ...... Nearly all the texts expatiating on the iconography of Śrī Lakṣmī describe her as well dressed, decked with various ornaments, having such physical traits as fully developed breasts, a norrow waist and heavy buttocks.'[7] The representation of Śrī Lakṣmī is found in the art of Bharhut, Sāñchī, Bodh Gaya and Amarāvatī.[8] We may refer here also a silver dish found

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1. मणिभद्रो भ्रावस्यां पूर्णभद्रश्च भ्रातरौ ...... । *Mahāmāyurī*, *Journal Asiatique*, 1915. p. 38.
2. *Development of Hindu Iconography*, p 99; *Indian Soulpture*, p. 39.
3. A. Coomaraswami, *Yakṣas*, Part. I. p. 18.
4. *Development of Hindu Iconography*, pp. 92–98.
5. *Jātaka* Vol. VI. p 39.
6. *I. H. Q.* Vol. V. pp. 612–614.
7. *Development of Hindu Iconography*, pp. 370–372.
8. Ibid., pp. 374–376.

at Lampsacos [1] in Asia Minor (Pl. VIII. Fig. 1.). This represents a Romanised figure of goddess Lakṣmī.

Buddhist traders, according to their own religious belief, hailed Buddha for rescue in the time of distress caused by ship-wreck, [2] theft or robbery. [3] Many a times, we read in the *Avadāna* stories, that Śiva, Varuṇa, Kubera etc. were not found helpful in saving the traders, and the Buddha came to the rescue of traders and saved them. [4] For this reason Buddha was very often paid respectful visits by the traders and the *sārthavāhas*. [5] Similarly the traders of the Brāhmaṇa religion paid their homage to the gods of their belief and prayed for the prosperity of their business. [6] While the traders were out on trade, their tender-hearted wives, doubtful of the return of their husbands, used to promise offerings to gods. Wife of a *sārthavāha* of Rājagṛha, who was out on maritime trade, promised before Nārāyaṇa to offer *sauvarṇacakram*, if her husband returned home safely. [7] We have referred to above the rite of *paṇyasiddhi*[8], common among the Vedic traders for success in trade. This rite continued later also, in the form of *maṅgala svastyayana*. [9]

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1. *Commerce between Roman Empire and India*, p. 143; V. S. Agrawala, *Nāgarī Pracāriṇī Patrikā*, Vikramāṅka, pp. 39–42.
2. *Avadāna Śataka*, pp. 11.
3. Ibid., p. 33.
4. Ibid, p. 11.
5. Ibid., p. 9; *Divyāvadāna*, p. 58. etc.
6. *Āpastamba Dharma Sūtra*, 4, 14, 28.
7. *Avadāna Śataka*, p. 59.
8. Supra, 295.
9. *Divyāvadāna*, p. 21.

CHAPTER XII

COMMODITIES

The only evidence of the assimilation [1] of the Paṇis into the Vaiśya class is the word *paṇ* [2] which was fully adopted in the later period by the traders to denote the sense of exchange. [3] From *paṇ* the word *paṇya* was derived, which was used in the same sense in which we use today the word commodity. Pāṇini has given two words for commodity *paṇya* and *paṇitavya*. [4] These words according to V. S. Agrawala, were to denote the commodity in general and for the commodities arranged in the shop there was another word *krayya*. [5] But it seems more reasonable to hold that the *krayya* denoted the commodity which could be purchased with money, as its root *'kri'* suggests.[6] But this technical distinction between the words like *panya, paṇitavya* or *krayya*, was perhaps not

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1. Supra, p. 31.
2. *Paṇa* and *pratipaṇa* are found in hymn of the *Atharva Veda* denoting the process of bargaining and selling. The root *paṇ* from which the word is derived is employed in the later *Saṁhitās* and the *Brāhmaṇas*. *Paṇana* in the *Śatapatha Brāhmaṇa* denotes trafficking. *Vedic Index* Vol. I. p. 471.
3. In *Śat. Brā.* the word *paṇa* is mentioned in the sense of barter, purchase and buy. Monier-Williams, *Sanskrit English Dictionary*, p. 580.
4. *Aṣṭādhyāyī*, III. 1, 101; IV. 4.51.
5. *Pāṇini Kālīna Bhārata*, p. 231.
6. *Kraya* occurs in Tait. III. 1, 2, 1; VI. 1, 3, 3; *Vāj. Saṁ.* VIII. 55; XIX. 13. *Śat. Brā.*, III. 2, 2, 10 etc. See also *Vedic Index*, Vol. I. p. 196.

   The root *kri* occurs in *R. V.* IV. 24,10 and also in *A. V.* III. 12. 2; *Tait. Saṁ.* VI. 1, 10, 3; VII. 1, 6, 2.

very current, and perhaps all these words commonly denoted the sense of commodity. [1]

The Pāṇinian *sūtra, jīvikārthe cāpaṇye* [2] indirectly suggests that the word *paṇya* in the time of Pāṇini denoted a commodity on which a livelihood could be earned. [3] The implied significance of the word *paṇya* is in its exchangeability, which has nearly all the attributes of the modern-word 'commodity.' Commodity in modern economics is an article which is desired as possesssing the power to satisfy human wants, is limited in supply and has therefore a value in exchange. [4] In other words economic goods or commodities are things which are directly capable of money measures. [5]

A commodity has money value only if it is in limited quantity. Taussiz has said that scarcity is the earmark of an economic good. [6] If we look into the Vedic literature, particularly the *Brāhmaṇas* we find that they mention many names of articles like milk, butter, even some kinds of grains, but it is very difficult to consider them as economic commodities of those days. No doubt that they were useful for man but as their production was for domestic use and was common, they hardly had any commercial significance and it is difficult to ascertain their money or exchange value. Most of these things, people enjoyed as the free gifts of nature, because every family and every house-hold could produce such things from purely local resources. No doubt that such things had great significance in the field of subsistance economy, but for exchange economy productions of art and industry

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1. V. S. Agrawala is also convinced that in the *Mahābhārata*, the *paṇya* occurs in the sense of *krayya*. *Pāṇini Kālīn Bhārata*, p. 231. In the *Amarakoṣa* we read *vikraya*, *paṇya*, *paṇitavya* and *krayya* as the synonimous words. II. *Vaiśya Varga*, 82.
2. *Aṣṭādhyāyī*, V. 3. 99.
3. Bhattoji Dikshit explains जीविकार्थे as यद्विक्रीयमाणं, *Siddhānta Kaumudi*, *sutra*, 2054. p. 317.
4. *Encyclopaedia Britannica*, 14th edition, Vol. VI. p. 122.
5. Marshall, *Principles of Economics*, p. 47.
6. F. W. Taussiz, *Principles of Economics*, Vol. I. pp. 5-7.

alone could play on, important role. Therefore it was a general belief that trade of those days was mostly in luxurious goods.[1] The main reason for reducing the commercial significance of agricultural goods and other things of domestic produce in comparison to the produce of art and industry was that their demand was far less than that of the latter. Without demand an article of commerce has no significance though its usefulness may be there. Even scarcity without demand, sometimes may fail to bring an article in the market. A trader or a merchant buys or produces a thing with a view of trade only if the thing has some demand in the locality in which he wants to trade. The maritime traders of ancient India always made selections in their stock of commodities keeping in view the demand of the countries to which they had to go.[2] Unfortunately, we do not know how the early Indian traders studied the demand situation of foreign countries. In the *Arthaśāstra*, Kauṭilya has pointed out that one of the duties of the superintendent of commerce was to ascertain the demand or absence of demand of various commodities.[3] This shows that in ancient days there was some method to ascertain the demand situation. Probably like today, there were two factors to provide the exact idea of the situation of demand. One was the profit and the other was the purchasing power of the consumers. When a trader or manufacturer buys anything to be used in production or be sold again, his demand is based on his anticipation of profit which he can derive from it.[4] A trader coming from Uttarāpatha to the middle country,[5] or a trader of middle country going to Sauvīra,[6] or a trader from Videha going to Gandhāra, or a trader[7] of

1. *Economic Life in Ancient India*, pp. 275–276.
2. In the *Divyāvadāna*, we often meet with the expressions such as *samudra-gamanīya paṇya*, pp. 2, 20 etc.
3. *Artha.*, II. 16. 1.
4. Marshall, *Principles of Economics*, p. 78.
5. *Jātaka*, Vol. III. p. 365; Vol. I. pp. 124, 178, 181; Vol. II. pp. 31, 287; Vol. V. 259–50.
6. *Vimāna Vatthu Aṭṭhakathā*, 336, 370.
7. *Jātaka*, Vol. II. p. 248.

Kāśī or Campā going to Suvarṇabhūmi or a trader going from east to west [1] or a trader from Vārāṇasī going to Ujjain must have had the possible idea of the profit which he was to derive from his enterprise. [2] But while anticipating the profit in relation to a particular commodity one had also to speculate about the consumer's capacity to pay the profit desired by the trader. If a trader before acquiring a commodity does not guess the possibility of getting a consumer who can afford to pay the profit anticipated by the trader, he will not try to trade in that particular commodity. *Assavaṇijas* of Takṣaśilā without the anticipation of the profit, did not come to Vārāṇasī. [3] If a Vārāṇasī potter, went with his donkey-load of pots to Takṣaśilā market, he must have had some idea of the purchasing power of the consumers of his pots. [4]

Chance, had its own role to play in business. While all speculation of profit may come to nothing due to ship-wreck or fraud or due to the changed condition of market, [5] there was every possibility of getting some profit even by unspeculative business of selling a dead mouse as a commodity. [6]

A social factor, which seems effective in promoting the economic notion of commodities and in bringing much of the agricultural and industrial produce of house-hold requirements to the class of exchangeable goods was the rise of the notion of *varṇadharma*. Before the rise of the castes most of the population was engaged in production. Every house-holder sufficiently produced for his food, cloth and furniture by doing some sort of occupation, agricultural as well as industrial. But this state of self sufficiency was considerably disturbed due to the formation of the *varaṇas* which prohibited

1. *Jātaka*, Vol. I. p. 98, 368; Vol. III. p. 502; Vol. V. 471.
2. Ibid., Vol. IV. p. 15–7; Vol. VI. p. 34.
3. Ibid., Vol. I. pp. 124, 178, 181; Vol. II. pp. 31, 287; Vol. V. p. 259–60; VI. p. 265.
4. *Dhammapada Aṭṭhakathā*, (H. O. S.) Vol. I. p. 224.
5. *Jātaka*, Vol. II. p. 127; Vol. IV. 15–17; Vol. II. 112–14; Vol. V. p. 259 etc.
6. Ibid., Vol. I. p. 120

and restricated some of the classes like Brāhmaṇas and the Kṣatriyas from pursuing the occupations of productions like agriculture, cattle-breeding and industry. The conception of *hinasippa* [1] which developed in the society must also have restricted the production of certain commodities to certain classes. Not only the *hinasippa*, but certain other industries and works of art also became the specialised production of certain communities. Such division of labour also brought in its train the exchange of goods among those who undertook different section of production. And such exchange in turn, brought the phenomenon of the value of money and price.

Agriculture formed an important basis for the commercial production. Of course in the early period of commerce, for example in proto-historic and Vedic period, [2] the scope of agricultural produce was limited and mostly contributed to subsist economy. But later, when agriculture became specialised profession the produce of agriculture also became the articles of trade. Therefore, in the Buddhist literature and inscriptions we find definite mention of corn-dealers [3] (*dhānya vaṇija*) who traded in all kinds of grains. [4] But it may be noted that food grains were mostly the commodities of local trade. There were some other kinds agricultural produce,

1. *Vinaya*, Vol. IV. p. 6; *Jātaka*, Vol. IV. p. 117; *Milinda*, 250.
2. Infra. Appendix A.
3. *Jātaka*, Vol. III. p. 198. An inscription from Junnar also mentions the corn-dealers. *Luders list* No. 1180.
4. The traditional number of *dhānya* varied from ten to seventeen kinds. Thus, *Bṛhadāraṇyaka Upaniṣad* mentions ten kinds of seeds i.e. rice, barley, sesamum, bean, millet and pavic seed, wheat, lentils, pulse and vetches, *Bṛhadāraṇyaka Upniṣad*, VI. 3. 13. In the *Mahābhāṣya*, the traditional number of grains has been enumerated as seventeen. *Mahābhāṣya*, V. 2. 4. *Pātañjalam Mahābhāṣyam*, p. Vol. V. p. 361. In the Jain works, however it comes to seventeen. They may be enumerated as *vrīhi*, *yava*, *masūra*, *godhūma*, *mudga*, *tila*, *caṇaka*, *aṇu*, *priyaṅgu*, *kodrava*, *akuṣṭhaka*, *śāli*, *ādhaki*, *kalaya*, *kulattha* and *saṇa*. *Life in Ancient India as Depicted in Jain Canons*, p. 91.

like fibre-growing plants, sugar-cane, wine-plants, oil-seeds, the plants producing colouring ingredients etc. which were of greater importance as commodities than the food grains and most of them supplied raw materials for the manufacture of articles of art and industry.

Plant and animal produce also had their important contribution to trade. Some of the plant-produce like vedellium (*mukula*) costus (*kuṣtha*), Indicum (*nila*), cardamomum nard or spikenard and amomum grape etc. had great demand in Roman markets. [1] Similarly, the cotton cloth of Takṣaśilā, according to *Appolonius* of *Tyana*, was exported to Egypt for sacred uses. [2] Main animal produce which supplied raw materials to industries were ivory, skin and silk.

Backed by the agriculture, flora and the fauna, the industries and art of ancient India achieved remarkable success and produced a variety of commodities. In the proto-historic India, we find that the industrial production had a very wide range, i.e., from pottery to beads of precious stones and other kinds, of metal ornaments.[3] In the Vedic times, we find the mention of several industries like weaving, tanning of hides, pottery, working in metals and working in wood. [4] From the Buddhist literary sources a list [5] of artisans and craftsmen has been presented by Rhys Davids, which include workers in wood, workers in metal, workers in stone, weavers, leather workers,

1. The price of indicum in Rome was 17 denarius per pound. *Pliny*, XXXIII. 21; of Indian fiellium 3 denarius per pound, of costus 5 denarius per pound *Pliny*, XII. 25; of Spikenard 100 denarius per pound. *Pliny*, XII. 25; of amomum grape 60 denarius per pound. *Pliny*, XII. 28 and of Cardamum 3 denarius per pound. *Pliny*, XII. 29.
2. R. C. Majumdar, *Classical Accounts of India*, p. 387.
3. *Early Indus Civilization*, 93–133.
4. *Economic Life and Progress*, pp. 146–160; *Economic History of Ancient India*, pp. 16–22, 53–60
5. The traditional number of artisans have been enumerated eighteen. But unfortunately only four are menaioned by name. *Jātaka*, Vol. VI. p. 427. A list of artisons and craftsman is also available in *Apadāna*, Vol. II. pp. 357–58.

potters, ivory workers, dyers, jewellers, fishers, butchers, hunters, garland-makers and flower-sellers, rush-workers and basket-makers. [1]

India since early times, neither lacked in the metallic-wealth nor in the art of metal-working.[2] In the proto-historic period a large number of commercial products were based on the metal work. In the Vedic and the later Vedic period also, we do not find the lack of knowledge about metals and metallurgy. [3] Similarly, the *Jātakas* and other Pāli canons informs us about different aspects of metal-industries. [4] In the *Arthaśāstra* there are detailed discussions about various kinds of metallic ores, methods of removing impurities from the ores, ways of making alloy and other metallurgical processes. [5] Mines were put under state-control and there were suprintendents to look after the affairs of mines and metallurgy.[6] There were specialised metal-smiths. In the *Milinda Pañho* we find mention of different types of smiths working separately with different metals. [7]

Since the Vedic times there was a decided tendency towards division of labour and the growth of sub-castes, which itself was a crieterion of the volume and standerd of the industrial enterprise of the period. The *Jātakas* also show progress in the field of the Industrial art. Pāṇini mentions some *śilpins*, such as *kulāla*, (potter), *takṣan* (carpenter), *dhanuṣakāra* (makers of bows), *śilpini cākṛṇaḥ* (= *tantuvāya*, weavers), *kambala-kāraka* (blanket-makers), *karmakāra* (blacksmith), *suvarṇakāra* (goldsmiths) [8] etc. The terms *grāma-śilpin* [9] and *rājaśilpin* [10] indicate that the artisens as well as craftsmen were patronised by village-communities

1. *Buddhist India*, pp. 87–60.
2. *Early Indus Civilizations*, pp. 93–107.
3. *Vedic Age*, pp. 397–398, 461–462; *Economic Life and Progress*, pp. 154–160.
4. *Social and Rural Economy*, pp. 191–195.
5. *Artha.*, II. 12–14.
6. Ibid., II. 12.
7. *Milinda*, Vol. I. pp. 1–2.
8. *India as Known to Pāṇini*, pp. 229–235.
9. *Aṣṭādhyāyī*, VI. 2. 62.
10. Ibid., VI. 2, 63; *India as Known to Pāṇini*, p. 229.

and the states. The *Jātakas* also present a happy picture of the industrial conditions of their times. They make frequent mention of eighteen types of guilds of artisans and craftsmen. [1] Guilds of the craftsmen of the time were localised in the specified corners of the city and were well organised on the pattern of trade-guilds above discussed. [2] The Mauryan government, as is evident from the *Arthaśāstra*, took deeper interest in the affairs of the industries and the industrialists than it was previously done. It established effective control on the industrial administration. [3] It also systematised the relations between the employers and the employees on the basis of equity and justice. [4] Similar was the attitude of Manu towards the industrial and the industrial workers. [5]

Thus the general condition of the industries appears to be good and was conducive to the growth of trade and commerce. Commercial production was financed by the individual producers as well as by the industrial guilds. [6] There was no dearth of industrial labour also.[7] In most cases family-members were obliged to assist the head of the family carrying on agricultural operations and industrial production. Besides, there was sufficient supply of free-labour working on daily wages as well as slave labours. [8]

It is not possible here to present a detailed description of agricultural and industrial production, for, the subject matter does not come directly within the perview of our survey. There are some difficulties also. Our sources do not permit us to have a complete idea about the nature of commodities of ancient India. While very often we read in the *Jātaka*

1. *Jātaka*, Vol. II. pp. 267, 314; Vol. III. p. 281; Vol. IV. p. 411; Vol. VI. pp. 22, 427; *Buddhist India*, pp. 57–90.
2. Supra., pp. 210–214.
3. *Chandragupta Maurya and His Times*, pp. 202–204.
4. *Early Indian Economics*, p. 82.
5. *Manu*, VII. 127–128.
6. *Archiv Orientální*, Vol. XXII. Nos. 2–3 pp. 262–263; *Social and Rural Economy*, pp. 337 351; Supra, pp. 215, 218, 251–253.
7. P. Saran, *Labour in Ancient India*, p. 36.
8. *Artha.*, II. 24.2; IV. 1; *India as Described by Megastenes and Arrian*, p. 72; *Social and Rural Economy*, pp. 407–434.

stories about five hundred waggon loads of the *sārthavāhas*, we unfortunately, know practically nothing about the nature of goods they carried. [1] The other difficuity is that though the range of commercial production was very wide, very few things are mentioned in the context of sale and purchase. Pāṇini while naming the marketable articles in the explanation of the *sūtra*, *tadasya paṇyam*, [2] enumerates only *lavaṇa* (salt), perfumes like *kisara*, *tagara*, *gugugula usira* and *salālu*, [3] though from *Aṣṭādhyāyī* we can make a more exhaustive list of economic products. [4] Similarly the Buddhist sources give only a few commodities along with their price, suggesting their money value. [5] But the industries and crafts of their time produced many more articles of trade than what are mentioned in the context of price. We have seen that India had commercial relation with Suvarṇabhūmi. [6] But we have hardly any idea of the nature of goods, which the traders of India exported into Suvarṇabhūmi. Only in the case of Indo-Roman trade we have an idea of import and export which was made at coastal emporiums of India, particularly by Roman traders. [7] Therefore while preparing the list of articles of trade of ancient India (see appendix A) we have not depended upon only the articles, which are mentioned in the context of trade or along with price, but have included in our list all sorts of productions which suggest their economic value and exchange possibilities. The present list, though not exhaustive, enumerates the articles in a broad chronological sequence according to sources. Every period or source has sub-classifications under the heads 'Animals and Animal-produce', 'Plant produce and 'Mineral and Mineral Produce' etc. The arrangement of the articles within these three sub-heads is alphabetical.

1. *Social Organisation in North East India*, p. 273.
2. *Aṣṭādhyāyī*, IV 4. 51.
3. Ibid., IV. 5. 52–53. *India as Known to Pāṇini*, p. 245.
4. Ibid., pp. 245.
5. *Pre-Buddhist India*, pp. 235–36. *Social and Rural Economy*, pp. 266–68.
6. Supra., p. 115.
7. *Periplus*, pp. 286–287.

APPENDIX—A

LIST OF COMMODITIES

Proto-historic Commodities

Commodity	*Reference*	*Remark*
A. Animal and Animal-produce :		
Animal—humped bull, buffalo, sheep, elephant, camel etc.	*Mahenjodaro,* Vol. I. pp. 27-28.	Domesticated
Ivory—comb, pins, cuphandles.	*Harappa,* p. 459 Vol. II, p. 459.	
Wool	*Mohenjodaro* p. 32.	Produced locally.
Shells—bangles, dishes, feeding-cups	*Chanhudaro* pp. 231-232.	Obtained from the Indian coasts and imported from Persian Gulf and Red Sea also.
Conch-shells	*Early Indus Civilization,* p. 130.	Nine varieties of conch-shells were warked in the Indus valley cities.
B. Plant-produce :		
Barley	*Mohenjodaro* p. 27	
Cotton	*Mohenjodaro,* p. 33 *Early Indus Civilization,* p. 105	Spinning was very common in the houses of Mehenjodaro and Harappa. It is evident from the finds of a large-number of spindle whorls of pottery, shells and faience.
Peas	*Harappa,* p. Vol. I. p. 467.	
Sesamum	*Harappa,* Vol. I. p. 467.	
Wheat	*Mohenjodaro,* p. 37.	Produced locally.
C. Mineral and Miscellaneous-prdue:		
Amulet	*Chanhudaro,* pp. 140, 145.	Imported from Jhukar also.

Commodity	*Reference*	*Remark*
Agate	*Mohenjodaro*, p. 681.	Obtained from Deccan, from the valleys of Krishna, Godavari, Bhima and Narmada, from Rajmahal traps and from Ranapur and Khatiawar.
Albaster	*Mahenjodaro*, p. 629.	Obtained from Salt Range, Kathiawar, Baluchistan and locally.
Amazon	*Mohenjodaro*, pp. 30, 678.	Obtained from Kashmir and Nilgiri.
Amethyst	*Mohenjodaro*, p. 32	
Bitumen	*Mohenjodaro*, p. 35	Imported from Baluchistan.
Beads of agate, carnelian, jasper, chalcedony, milky quartz, black chert, chert, lapis, serpentine, faience, steatite shell, ivory, copper and gold	*Harappa*, Vol. I. pp. 412-431, *Indus Civilization*, p. 73.	The Harappan beads are abundant; varried in form and material and historically important. It was an article of import as well as of export.
Copper—used for the manufacture of axes, adzes, saws, chisels, knives, sickles, razors, needles, cups, hooks, jars, dishes, arrowheads, spears, daggers etc.	*Mohanjodaro*, pp. 30,35, *Harappa*, pp. 382–391 ; *Chanhudaro*, pp. 174–189.	Copper was the most significenfactor in revolutionising the economy of the period. Sometimes tools and implements of copper were made by mixing it with tin or nickel.
Carnelian	*Mohanjodaro*, p. 681.	Obtained from Combay.
Crystal	*Mohenjodaro*, p. 678	Obtained from mari, Kathiawar.
Gold	*Mohenjodaro*, pp. 28–30.	Obtained from Hydarabad, Kolar gold-field of Mysore, Ananantpur in Madras.

Commodity	*Reference*	*Remark*
Jade	*Mohenjodaro*, p. 32.	Obtained from Tibbet, Pamir and Turkustan.
Jasper	*Mohenjodaro*, pp. 681–682.	Obtained from Rajputana.
Lapis	*Mohejodaro*, p. 677.	Imported from Badkshan.
Lead	*Mohejodaro*, p. 677.	Obtained from Ajmer.
Ornaments—necklace, fillets, armlets, finger-rings, girdles, ear-rings, bracelets, bangles, pins, buttons etc.	*Mohenjodaro*, p. 34, *Harappa*, pp. 432–450, *Chanhudaro*, pp. 190–214.	Material used for making ornaments were gold silver, ivory, faience, steatite, agate, carnelian, crystal, shell etc.
Pigments—red, blue, green, white, black etc.	*Mohenjodaro*, p. 34; *Harappa* pp. 468–469.	
Slate	*Mohenjodaro*, p. 68,	Obtained from Rajputana.
Silver	*Mohenjodaro*, p. 676, *Harappa*, 391	Obtained from Afghanistan and Persia.
Stone—stone-objects were mace-heads, drill-heads, weights, saddle-querns, pounders, dish etc.	*Mohenjodaro*, p. 32, *Chanhudaro*, *pp.* 224-231.	Stone of any kind was a rarity in the Indus valley. They, for buildings and for other purposes were brought from distant places.

Commodities from the Vedic Sources

Commodities	*Reference*
A. Animal and Animal produce :	
Ass (*khara, gardabha*)	*Aitareya Āraṇyaka*, III. 2. 4.; *Śat. Brā.*, V. 1. 2. 15,; XIV. 1, 2. 17; 2. 2. 30 *R.V.*, III. 53, 23; *Tait. Saṁhitā*, V.1. 1. 2. *A.V.*, V. 31. 3.; *A.V.*, X. 1. 4.; *Bṛhadāraṇyaka Upaniṣad*, I. 4. 8.
Antelope	*Tait. Saṁhitā*, V. 5. 17. 1. *Vāj. Saṁhitā* XXIV. 27. 40 *Nirukta*, II. 2.
Bull	*R.V.*, VI. 12. 4.; I. 3. 18; I. 190. 5. V. 58. 6. *A.V.*, XII. 3. 37; I. 12. 1; *Vāj. Saṁhitā*, XXXV. 2. 3.; *R.V*, VI. 16. 47; X. 91. 14. *A.V.*, III. 6. 4.

Commodity	*Reference*
Camel	*R.V.*, X. 106. 2. *Kāṭhaka Saṁhitā*, V. 6. 21. 1; *A. V.*, XX. 127. 2; *R.V.*, VIII. 6. etc.
Cow	*A.V.*, XII. 3. 37; *A.V.*, IX. 4. 1.; *A.V.*, IV. 38. 6-7; *R.V.*, I. 118. 4; VII. 104. 22 etc.; *A.V.*, VII. 95. 1. *Śat. Brā*, XII. 5. 1. 4.; *Ait. Brā.*, VII. 2.
Camb *A. V.*, Refer a comb of a hundred teeth.	*A.V.*, XIV. 2. 65-68; *India of the Vedic Kalpa Sūtras* p. 163.
Elephant—*Kātyāyana Śrauta Sūtra* informs that elephants were reared mostly in the eastern part of India, horses in the western part and mules in the northern part of India.	*R.V.* VIII. 33. 8.; X. 40. 4.; *A.V.*, V. 14. 11; *Ait. Brā.*, VIII. 23. 3. *Kātyāyana Śrauta Sūtra*, XXII. 2. 22. 28.
Fish (*matsya*) Sale of fish is referred to in *Vāj. Saṁhitā*, XXX. 16.	*R.V.*, X. 68. 8.; *A.V.*, XI. 2. 26; *Śat. Brā.*, I. 8. 1. 1; *Aśvalāyana Śrauta Sūtra*, X. 8. 8; *Bṛhadāraṇyaka Upaniṣad*, VI. 3. 18.
Goat (*aja and chāga*)	*R.V.*, X. 16. 4.; I. 162. 2, 4; *A.V.*, IX. 5 1.; *R.V.*, VIII. 70. 15; *A.V.*, VI. 71. 1. etc. *Tait. Saṁhitā*. V. 6. 22. 1; *R.V.*, I. 162. 3; *Vāj. Saṁhitā*, XIX. 89; XXI. 40.
Horse	*R.V.*, I. 143. 7; III. 1. 12.; IV. 6. 3; *A.V.*, V. 17. 15. *R.V.*, I. 83. 1. etc. *Tait Brā.*, I. 1. 5. 6; *Śat. Brā.*, II. 1. 4. 17; *Kāṭhaka Saṁhitā*, XIII. 3. *R.V.*, I. 94. 10; *Pañcaviṁśa Brāhmaṇa*, XIV. 3. 12. etc. *A.V.*, XIII. 1. 1.
Ox (draught) (*anaḍuh*)	*R.V.*, X. 59. 10.; III. 53. 18; *A.V.*, III. 11. 5; *Kāṭhaka Śrauta Sūtra*, XV. 1. 5; *R.V.*, I. 173. 1; *A.V.*, III. 11. 8.
Honey (*madhu*)	*R.V.*, I. 90. 6. 8; 187. 2.; *Tait. Brā.*, III. 12. 4. 13. etc.; *R.V.*, VIII. 4. 8; *Jaiminiya Upaniṣad*, I. 55. 2.
Clothing—skin (*ajina*)	*A.V.*, V. 21. 7. *Śat. Brā.*, V. 2. 1. 21. 24, III. 1. 9. 12. *A.V.*, I. 166. 10; X. 136. 2.
Drapi	*R.V.*, I. 25. 13; 116. 10. etc.
Leather bag (*dṛti*)	*R.V.*, I. 191. 10; IV. 51. 1, 3. etc. *A.V.*, VII. 18. 1. *Pañcaviṁśa Brāhmaṇa*, V. 10. 2. etc.

Commodity	*Reference*
Leather bottle (*bhastrā*)	*Śat. Brā.*, I. 1. 2. 7; 6. 3. 16.
Pearl (It is mentioned as *samudramaṇi*)	*Saḍviṁśa Brāhmaṇa*, V. 6.13.3.
Pearl shell (*saṅkha*)	*A.V.*, IV. 10. 1.
Shoes	*India of the Vedic Kalpa Sūtras*, p. 161.
Woolen garmetns	*India of the Vedic Kalpa Sūtras*, p. 161.
B. Plant and Plant produce :	
Barley (*yava*)	*R.V.*, VI. 3- 4.; *A.V.* XII. 2. 54.; XVIII. 3. 6. 9 ; XVII. 4. ; etc.
Basket	*Vāj. Saṁhitā*, XXX. 8 ; *Tait. Brā.*, III. 4. 5. 1.
Beans	*A.V.* XII. 2.
Coverlet (*upastaraṇa*)	*Kauśitaki Upaniṣad*, I. 5. *R.V.*, IX. 69. 5 ; *A.V.*, XV. 3. 7.
Cord (*raśanā*)	*R.V.*, I. 162. 8 ; *R.V.*, I. 162. 8 ; *R.V.*, I. 163. 2. 5. ; *A.V.*, VIII. 71. 1. etc.
Fan (*dhavitra*)	*Śat. Brā.*, XIV. 1. 3. 30; *Taitariya Āraṇyaka*, V. 4. 33
Fibre plants It included cotton (*Karpāsa*) hemp (*Saṇa*), flax. (*Kṣauma*) Weaving industry of Vedic times was in an advanced stage and it was supported by some crafts and arts like dying and embroidery.	*Gaut. Dharma Sūtra* I. 19. 20 ; *Baudh.* D. S. I 6. 13. 10. *Kath. G.S.*, 4.8. ; *G.S.*, 59. ; *Asv. S. S. Uttara-sākhā*, III. 4. *Ap. Ds.* I. 1. 2. 40 ; *India in Vedic Kalpa Sūtra*, p. 134. *Vāj. Saṁ.* XXX. 8, XXX. 9, XIX. 82. 89 ; *Ait. Brā.*, III. 19. *Tait. Brā.*, III. 45. 1, III. 4. 7. 8.
Garment	*R.V.*, VI. 51. 4 ; *A V.*, VIII. 2. 16 ; *Bṛhadāraṇyaka Upaniṣad*, VI. 1. 10 ; *Sāṅkhāyana Āraṇyaka*, XI. 4 ; *R.V.*, I. 95. 7 ; *Chāndogya Upaniṣad*, VIII. 8. 5 ; *Nirukta*, VIII. 9. etc. *R.V.*, I. 26. 1 ; 134. 4. etc. ; *A.V.*, V. 1. 3 ; IX. 5. 25. etc.
Under garment (*nivī*)	*A.V.*, VIII. 2. 16, XIV. 2. 50 ; *Śat. Brā.*, I. 3. 36, III. 2. 115.
Turban (*uṣṇīśa*)	*Aitareya Brāhmaṇa*, VI. 1 ; *Maitrāyaṇī Saṁhitā*, XIII. 10.
Silk garment (*tarpya*)	*A.V.*, XVIII. 4. 31. *Sāṅkhyāyana Śrauta Sūtra*, XVI. 12. 16.

Commodity	*Reference*
Wool	*R.V.*, V. 8 4.; *R.V.*, III. 34. 3; *R.V.*, X. 85. 29; *Aaitareya Brāhmaṇa*, III. 4. 9. 1.
Millet	*A.V.*, IV. 35, X. 3, XII. 3. etc. *Y.V.*, XVIII. 12, XIX. 22, XXI. 29
Mustard (*sarṣapa*)	*Chāndogya Upaniṣad*, III. 14. 3; *Sāṅkhyāyana Śrauta Sūtra*, IV. 15. 8.
Osadhi	*A.V.*, XII. 1. 2.
Pipper Red. (*pippali*) Pepper Black pipper (*maricha*)	*Āpastamba Dharma Sūtra*, I. 7. 20. 12.
Rope (*rajju*)	*Vāj. Saṁhitā*, XXX. 7. *Tait. Brā.*, III. 4.3. 1.
Sandal (*upānah*)	*Tait. Saṁhitā*, V. 4. 4. 4; 6. 6. 1. etc. *Kauṣītaki Brā.*, III. 3. *Hiraṇya Keśi Gṛhya Sūtra*, I. 10. 6. I. 11.3; *Āpastamba Gṛhya Sūtra*, VII. 18. 11.
Sarkarā (Candied Sugar)	*India of the Vedic Kalpa Sūtra*, p. 163.
Sugarcane	*A.V.*, I. 34. 5. *Baudhāyana Gṛhya Sūtra*, III. 10. 4.
Taṇḍula	*A.V.*, X. 9. 26. etc.
Vrihi	*A.V.*, VI. 140. 2; VIII. 7. 20., IX. 6. 14.
Vessel (wooden)	*R.V*, I. 161. 1.; V. 86. 3.
Wheat	*Vāj. Saṁhitā*, XVIII. 12, XIX. 22.
Wine	*R.V.*, I. 116. 7; *A.V.*, IV. 34. 6; *Maitrāyaṇi Saṁhitā*, I. 11. 6.; *R.V.*, VIII. 2. 12.
Masūra	*Maitrāyaṇi Saṁhitā*, III. 11. 29; *Kātyāyana Śrauta Sūtra*, XIX. 1. 28. 21.
Madya	*Chāndogya Uyaniṣad*, V. 11. 5.

C. Minerals and Miscelleous produce :

Arrow	*R.V.*, X. 125. 6; X. 87. 6.; I. 148. 4, X. 178. 3; 4. 33. 10, III. 53. 23.
Bow	*R.V*, VIII. 72. 4; 17. 11. etc. *A.V.*, IV. 4. 6. 6. 6.
Bronze (*kṛṣṇayāsa*)	*Chāndogya Upaniṣad*, IV. 17; 7. VI. 1. 5; *Jaimanīya Upaniṣad*, III. 17. 3.
Bucket	*R.V.*, I. 34. 8;
Copper (*loha*)	*Tat. Saṁhitā*, IV. 7.5.1; *Śat. Brā.*, XIII. 2. 2. 18. etc.
Copper razor	*India of the Vedic Kalpa Sūtra*, p. 160–162.

Commodity	*Reference*
Collyrium (*añjana*). Obtained from Traikūṭa and Himavata. *Traikūṭa añjana* seems to have become rare in the age of the *Sūtras*. The scarcity of the *traikūṭa añjana* is also hinted in a passage of *Śat. Brā.*, III. 1. 3. 12. and in the *Kātyāyana Śrauta Sūtra*	*A.V.*, IV. 9 ; *Kātyāyana Śrauta Sūtra*, VII. 2. 32.
Cymbal	*R.V.*, X. 146, 2; *A.V.*, IV. 37. 4.
Flute	*Tait. Saṁhitā*, VI. 1. 4. 1; *Kāthaka Saṁhitā*, XXXIII. 4; *Pañcaviṁśa Brāhmaṇa*, VI. 5. 1. 3.
Gold (*jātarūpa*)	*Ait Brā.*, VIII. 13; *Laṭyāyana Srauta Sūtra*, I, 6. 24 ; *Kauṣītakī Śrauta Sūtra*, X. 16.
Jewel (*maṇi*)	*R.V.*, I. 33. 8 ; *A.V.*, I. 29. 1 ; *Nirukta*, VII. 23.
Lance	*R.V*, I. 32. 12. ; X. 180. 2. *V āj Saṁhitā*, XVI. 21. 61.
Lead (*sīsā*)	*A.V.*, XII. 2. 1, 19 ; *Chāndogya Upaniṣad*, IV. 17. 7.
Lohita lavaṇa (Red salt) Obtained from Sindhu. It is same as *Saindhava* Salt.	*Kauṣītaki Śrauta Sūtra*, 31. 17.
Lute	*R.V.*, II. 43 3. ; *A.V.*, IV. 37. 4 ; *Maitrāyaṇī Saṁhitā*, IV. 2. 9.
Mirror	*India of the Vedic Kalpa Sūtra*, p. 160.
Needle (*veśī and sūcī.*)	*R.V.*, VII. 18. 17. II. 32. 4., *A.V.*, XI. 10. 3 ; *Jaiminīya Brāhmaṇa*, II. 10.
Ornaments	*A.V.*, XV. 2. 1.
Anklet armlet (*khādi*)	*R.V.*, V. 54. 11.
Ring (*vṛṣakhādi*)	*R.V.*, I. 64. 10.
Necklace (*niṣka*)	*R.V.*, II. 33. 10 ; VIII. 47. 15 ; *A.V.*, V. 14. 3 ; *Śat. Brā.*, XIII. 4. 1. 7. 11.

Commodity	*Reference*
Chain of gold (*saraja*)	*Kātyāyana Śrauta, Sūtra* XXII. 18; XIV. 3. 10; XIV. 1. 23.
Diadem	*A.V.*, VIII. 6. 7.
Head ornament	*R.V.*, X. 55. 8; *A.V.*, VI. 138. 3; *Taittirīya Saṁhitā*, VI. 1. 5. 3.
Ear-ring (*karṇaśobhana*)	*R.V.*, VIII. 78. 3. *Saṅkha Likhita Gṛhya Sūtra*, III. 1. 18; *Parāśara Gṛhya Sūtra*, II. 6. 26; *Āpastamba Grhya Sūtra*, V. 12. 9.
Plough share (*phala*)	*R.V.*, IV. 57. 1; X. 117. 7; *A.V.*, III. 17. 5. etc.; *R.V.*, IV. 57. 4; *A.V.*, II. 8. 4; *Taittiriya Saṁhitā*, VI. 9. 7. 4. etc.
Paraśu	*A.V.*, 3. 31.
Sickle (*dātra*)	*R.V.* VIII. 78. 10.
Silver (*rajata*)	*Tait. Saṁhitā*, I. 5.1.2; *Śat. Brā.*, XII. 8. 3. 11. etc.
Trapu	*A.V.*, XI. 3. 8; *Kāṭhaka Saṁhitā*, XVIII. 10; *Chāndogya Upaniṣad*, IV.17. 7.
Umbrela	*India of the Vedic Kalpa Sūtra*, p. 1, 61;
Vessel	*R.V.*, II. 14. 1; V. 51. 4; X. 29. 7; VIII. 45. 26. I. 162. 13; *Śat. Brā.*, II. 1. 95.
Drinking vessel (*pātra*)	*R.V.*, I. 8. 4; *A.V.*, IV. 17. 3.
Cooking vessel (*pacana*)	*R.V.*, I. 162. 6; *Śat. Brā.*,VI. 5. 43. 3, 4;
Pot (*kalaśa*)	*R.V.*, I. 117. 12; *A.V.*, III. 12. 7; *Vāj. Saṁhitā*, I. 22; (*Kumbha*) *R.V.*, I. 116. 7; 117, 6. *A.V.*, I. 6. 4. etc.

Commodities from the Aṣṭādhyāyī

Commodity	*Reference*
A. Animal and Animal produce :	
Blanket (*paṇya kambala, pāṇḍu kambala*) It was a vendable commodity of definite weight and size. Noted region for this product was Gandhāra.	IV. 2. 11; VI. 2. 42.
Butter, milk and curds.	V. 2. 23.

Commodity	*Reference*
Cow and bull Pāṇini mentions *govāṇḍja.*	IV. 2. 136; VI. 2. 41.
Horse Pāṇini mentions *aśvavāṇlja.*	VI. 2. 136.
Shoes (*upānah*)	V. I. 14.
Skin	IV. 2. 140 ; IV. 2. 12.
Urṇā and *Ūrṇaka*	IV. 3. 15, 8.
B. Plant produce :	
Cloth (*vastra*)	III. 1. 21.
Cotton (*tūla and karpāsi*)	III. 1. 25, 1. 36. IV. 3. 136; *gaṇa* on II. 4. 31.
Dye stuff (*rāgā*) It included lac,	IV. 2. 2. ;
Orpiment (*rocanā*) indigo (nīla)	IV. 2. 2., IV. 1. 42.
and *mañjiṣṭha*	VIII. 3. 97.
Garland (*mālā*)	VI. 3. 65.
Guḍa	IV. 4. 103.
Hemp (*bhaṅgā*)	V. 2. 4.
Kauśeya	IV. 3. 42.
Perfumens—Pāṇini mentions kiśara *tagara, guggula, uśira* and *śalālu.*	IV. 4. 53-54; *gaṇa* on IV. 4. 53.
Sacks and grain-container	IV. 1. 42; V. 3. 89.
Umā and *Auma* (linen)	IV. 3. 158.
Wine—Pāṇini refers to *madya, maireya, surā āsuti* and *Kāpiśāyana* as the main varieties of wine.	III. 1. 100, II. 4. 25, VI. 2. 70, IV. 2. 99.
C. Minerals and Miscellanious produce :	
Image (*pratikṛti*)	V. 3. 96.
Iron chains	V. 2. 79.
Lavaṇa (*salt*)	IV. 4. 52.
Maṇi—It included emerald (*sasyaka*) ruby (*lohitaka*) cats eye (*vaidurya*).	IV. 3. 85.

Commodity	*Reference*
Musical instrument—	
Viṇā, madduka, jhara-jhara.	III. 3. 65, IV. 4. 56.
Ornaments—*Lalāṭikā*	III. 3. 182.
Sickle (*dātra*)	III. 2. 182.
Weapons—spears, Javelins, battle-axe, bows, arrows, coats.	IV. 59. V. 390; IV. 4. 58, VI. 2. 107; III. 1. 25.

Commodities from the Buddhist Sources

Commodity	*Reference*	*Remark*
A. Animal and Animal-produce :		
Ajina	*Jātaka*, Vol. I. pp. 12, 53 ; Vol. IV. p. 387, Vol. V. p. 407; *Digha Nikāya*, Vol. I. p. 167 etc.	
Khara ajina	*Milinda*. Vol. I. p. 343 ; *Aṅguttara Nikāya*, Vol. II. p. 207 etc.	
Ass	*Jātaka*, Vol. IV. p. 547.	The price of one servicable ass in Mithilā was 8 *kahāpaṇas*.
Dog	*Jātaka*, Vol. II. p. 247.	The price of a nice plump dog was 1 *kahāpaṇa*.
Fish	*Jātaka*, Vol. II. p. 424.	The price of one fish was 7 *māṣas*.
Ghee	*Vinaya*. Vol. IV. p. 248.	At Śrāvastī ghee was sold of the value of 1 *kahāpaṇa*.
Honey	*Vinaya*. Vol. V. p. 52,	
Horse	*Jātaka*, Vol. II. pp. 289, 306 ; Vol. IV. p. 464 ; Vol. VI. p. 404 ; *Vinaya*. Vol. I. p. 857 ; Vol. III. p. 6. etc.	The price of an average horse was 1000 *kahāpaṇas*; of an young horse 6000 *kahāpaṇas*; of a team of chariot-

Commodity	*Reference*	*Remark*
		horse 90000 *kahāpaṇas*. In the *Vinaya*, horse as a commodity, has been mentioned. We get the terms *assabhaṇḍa* and *assavaṇija*. The noted region for the export of horse were Sindhu and Kamboja. Most of the horse-dealers of the Uttarāpatha found their market in Vārāṇasī.
Ivory	*Jātaka*, Vol. I. p. 320 ; Vol. II. p. 325.	Vārāṇasī was a noted centre of ivory works.
Vessel of ivory	*Digha Nikāya*, Vol. I. p. 78.	
Kambala	*Jātaka*, Vol. I. pp. 43, 71, 322 ; Vol. IV. p. 353 ; *Vinaya*, Vol. I. p. 58, 281 ; Vol. II. p. 174 ; etc.	
Woolen thread	*Vinaya*, Vol. p. 190.	
Meat	*Jātaka*, Vol. VI. p. 346 ; *Milinda*. Vol. I. p. 331.	A meat—seller is mentioned in the *Milinda*. In the market of Mithilā once meat was sold to the value of 1 *kākaṇī* and a half *māsa*.
Mouse	*Jātaka*, Vol. I. p. 120.	A dead mouse was sold at 1 *kākaṇi*.
Ox	*Jātaka*, Vol. II. p. 305.	A pair of oxen were sold at 24 *kahāpaṇas*.
Saṅkha	*Jātaka*, Vol. IV. p. 85 ; *Digha Nikāya*, Vol. I. p. 63 etc.	
Slave	*Jātaka*, Vol. I. p. 224 ; Vol. III. p. 343 ; Vol. VI. p. 545 etc.	The *Jātaka* mentions *dhanakrītadāsa* The price of one slave was 100 *kahāpaṇas*.

Commodity	*Reference*	*Remark*
B. Plant and Plant-produce :		
Cotton (*kappāsa*)	*Jātaka*, Vol. III. p. 350 ; Vol. III. p. 286 ; Vol. IV. p. 336; *Dīgha Nikāya*, Vol. II. p. 141; etc.	
Khoma	*Jātaka*, Vol. VI. pp. 47, 500 ; *Vinaya*, Vol. I. pp. 58, 96, 201. etc.	
Cloth—Kāśī cloth	*Jātaka*, Vol. VI. p. 450.	Kāśī muslin was sold in the city of Mithilā at 1000 *kahāpaṇas*.
Dyed cloth	*Dhammapada Aṭṭhakathā*, Vol.III. p.30.	A merchant of Śrāvastī loaded five hunded carts with cloth dyed with safforn-flower and set out from Vārāṇasī to trade.
Potthaka cloth made of *makaci*-fiber.	*Vinaya*, Vol. I, p. 306; *Jātaka*, Vol. IV. p. 252 etc.	
Grass	*Jātaka*, Vol. III. p. 130.	The price in Vārāṇasī of a bundle of grass was *māṣaka*
Dress—Sivi-robe	*Jātaka*, Vol. IV. p. 401.	A Sivi-robe was sold in the market of Śrāvastī at 1000 *kahāpaṇas*.
A robe for a court lady	*Jātaka*, Vol.II.p.240	The price of such a robe in Śrāvastī was 100000 *Kahāpaṇas*.
Nun's clock	*Vinaya*, Vol. IV. p. 256.	The price in Śrāvastī was 16 *kahāpaṇas*.
Garland	*Jātaka*,, Vol. III. p. 446.	The price in Vārāṇasī was a half *māṣa*.
Gandha—dhūpa, cunna, kappūra, vāsa	*Jātaka*, Vol. I. p. 290; *Milinda*, Vol. I, pp 262, 344.	*Gandhaāpaṇa* is mentioned in the *Jātaka*. *Gandhika* is mentioned in the *Milinda*.

Commodity	*Reference*	*Remark*
Oil	*Majjhima Nikāya*, Vol.IV.pp.153. 234. etc. *Dhammapada, Aṭṭhakathā*, Vol. I, p. 200.	*Dhammapada Aṭṭhakathā*, mentions oil store (*telakoṭṭhāgāra*).
Sandal and shoes	*Jātaka*, Vol. II. p. 373; *Dhammapada Aṭṭhakathā*, Vol. III. pp. 115, 178.	The price of a pair of shoes in Śrāvastī varied between 100 to *1000 kahāpaṇas*. Various kinds of ornamented shoes and sandals were made of *tiṇa* grass, *muñja*, grass, *babbaja* grass and of the leavees of palm as well as *kamala*. wooden sandals are also mentioned.
Sandal-wood—*Kāśi-candana, gaśirśa-candana.*	*Majjhima Nikāya*, Vol. II, p. 358. *Divyāvadāna*, p. 19.	The price of a load of *gośirṣacandana* was between 5 to 1000 *kārṣāpāṇas*.
Sugar-cane	*Dhammapada Aṭṭhakathā*, Vol. III. p. 313.	
Tagara	*Jātaka*, Vol. IV. p. 286; *Vinaya*, Vol, I. p. 203.	
Taṇḍula	*Jātaka*, Vol.I.p.225; Vol. III. 425. etc.; *Vinaya*, Vol. I. pp. 220, 226, 238, 239, etc.	
Takkola	*Jātaka*, Vol. I. p. 2o1.	
Tālīsa	*Jātaka*, Vol. IV. p. 286; *Vinaya*, Vol. I. p. 203. etc.	
Tila	*Jātaka*, Vol. I. pp. 67, 392; Vol. p. 352; Vol. III. p. 53; *Vinaya*, Vol. I.p.212;	
Yava	*Jātaka*, Vol. VI. p. 330.	There was a market of *yava* near the city of Mithilā.

Commodity	Reference	Remark
Wine	*Jātaka*, Vol I.p.350; Vol. V. p. 425; *Vinaya*, Vol.II.p.295, Vol. IV. p. 110; *Dhammapada Aṭṭhakathā*, Vol. I. pp. 36, 165, 271 etc.	Five kinds of fine wine (*meraya*) are mentioned in the *Vinaya* and in the *Jātakas*. Vārāṇasī and Kapiśa were noted for the manufacture of wine. The price of a jar of wine in Vārāṇasī was 1 *kahāpaṇa*.
C. Mineral and Miscellaneous-produce :		
Añjana	*Jātaka*, Vol. I. p. 194; Vol. II. p. 369; Vol. V. p. 416; *Digha Nikāya*, Vol. I. pp. 7, 12; *Vinaya*, Vol. I. pp. 203-204, Vol. II. pp. 135, 419.	Five kinds of *añjana* are mentioned. *They are kālā, seta, rasa, geruka, kappila. Añjani salākā* and box to contain *añjana* are also mentioned.
Asi	*Jātaka*, Vol. IV. p. 118; *Digha Nikāya*, Vol. I. p. 77 etc.	
Jātarūpa (metal)	*Aṅguttara Nikāya*, Vol. III. p. 116.	Five kinds of metal (*jātarūpa*) are mentioned. They are *ayo* (iron), *loho* (copper), *tipu* (tin), *sisā* (lead) and *sajjha* (silver). Further they are classified as *jātaloha* (natural metal), *vijāti* (produced metal), *kittima* (artificial), and *Picācha* (metal produced from the Picācha district ?). *Jātiloha* has also been explained as *ayo, sajjha, suvaṇṇa, tipu, sisā.*
Kaṅsa (as bronze)	*Milinda*, Vol. I. p. 3 ; *Vinaya*, Vol. II. p. 136.	*Vinaya* mentions a dealer in bronzeware. We also read

Commodity	*Reference*	*Remark*
„ (as silver)	*Jātaka*, Vol. IV. p. 107; Vol. VI. p. 504.	in the *Dhammapada Aṭṭhakathā*, Vol. I. p. 79 about the traders (*kaṅsakūṭa*) cheating with false metals, i. e. selling brass metals for gold ones.
„ (as gold)	*Jātaka*, Vol. VI. p. 509.	
Kaṅsapātra—(cups and dishes made of *kaṅsa*)	*Jātaka*, Vol. I. p. 336.	
Knife	*Dhammapada Aṭṭhakathā*, Vol. I. p. 295.	
Loṇa	*Vinaya*, Vol. I. pp. 202, 210, 350.	Different kinds of salt are mentioned *samuddaloṇa*, *kālāloṇa*, *Saindhavaloṇa*, *Sovirka* etc. *Loṇakāragāma* and *loṇakāra* are also mentioned in the *Vinaya*.
Marble	*Dhammapada Aṭṭhakathā*, Vol. I. pp. 231, 259 etc.	
Needle	*Jātaka*, Vol. III. p. 248 ; *Vinaya*, Vol. II. pp. 115, 117, 177; *Saṁyutta, Nikāya*, Vol. II. pp. 215, 257 etc.	*Sūcivāṇijas* are mentioned in the *Jātaka* and in the *Saṁyutta Nikāya*.
Ornaments (finger-ring, necklace, hair-pin etc.)	*Jātaka*, Vol. I. p. 9; Vol. II. p. 444 etc., *Dhammapada Aṭṭhakathā*, Vol. II. p. 332.	A finger-ring was sold at Śrāvastī in 100000 *kahāpaṇas*. The price of a gold necklace was 10000 *kahāpaṇas*.
Pharsa	*Jātaka*, Vol. I. p. 199 etc.	
Rajata (silver)	*Jātaka*, Vol. V. p. 50 ; *Dīgha Nikāya*, Vol. I p. 5 ; *Saṁyutta Nikāya*, Vol. I. pp, 192, 962 etc.	

Commodity	*Reference*	*Remark*
Ratna	*Millinda*, Vol. I p. 267 ; *Jātaka*, Vol. VI. p. 480.	Seven kinds of jewels are enumerated; *suvaṇṇa, rajata, muttā, maṇi, velūriya, vajira, pravāla.* According to a *Jātaka* a jewelled housing of a royal elephant was sold in 20000000 *kahāpaṇas.*
Suvaṇṇa, and *hirañña.*	*Jātaka*, Vol. I. pp. 182, 206 ; Vol. II. pp. 187, 373 ; Vol. VI. p. 574 etc. *Vinaya*, Vol. III. p. 16; *Dīgha Nikāya*, Vol. II. p. 179 ; *Majjhima Nikāya*, Vol. II. p. 18, *Dhammapada Atthakathā*, Vol. I. p. 246; Vol. III. p. 327.	*Dhammapada Aṭṭhakathā* mentions gold-brick and gold-plate. Once in the market of Vārāṇasī gold was sold to the value of 1000 *kahāpaṇas.*
Vajira (diamond)	*Saṁyutta Nikāya*, Vol. I. p. 115.	A dish of diamond was sold in Vārāṇasī in 1000 *kahāpaṇas.*
Tamba (copper)	*Jātaka*, Vol. I. p. 178.	*Saṁyutta Nikāya* mentions a *tambayaṭṭhi.*
Vessels of gold,	*Dhammapada Aṭṭhakathā*, Vol. I. p. 295.	
„ of copper,	*Dhammapada Aṭṭhakathā*, Vol. I. 395.	
„ of bronze,	*Vinaya*, Vol. I. p. 46.	
Earthen vessels	*Jātaka*, Vol. II. p. 73 ; Vol. IV. pp. 362, 370 etc.; *Dhammapada Aṭṭhakathā*, Vol. I. p. 320.	

Commodities from the Arthaśastra

A. Animal and Animal-produce :

Commodity	*Reference*
Blanket—Ten kinds of *Kambalas* are mentioned. Nepāla, Vaṅga, Pāṇḍya, Suvarṇa, Kudya, Kāśi and Magadha were famous regions for *Kambala.*	II. 11. 102.-111
Coral—Alakandaka and Vaivarṇika were two varieties of corals.	II. 11. 43.
Elephant—Elephants found in Kaliṅga, Aṅga, Karūśa, and in the east were of the best quality; in Daśārṇa and Aparantā were of middle quality and in Saurāṣṭra and Pañcajana countries were of low quality.	II. 2. 16–17.
Goat	II. 26. 6.
Honey	II. 24. 33., II. 15. 28.
Horse—Kamboja, Sindhu, Āraṭṭa, Vanāyu, Vāhlīka, Pāpeya, Sauvīra, Titala were noted regions for horses.	II. 30. 30–32.
Ivory—The price of a pair of tusk of an elephant, dead from natural cause was four and a half *paṇa.*	II. 2. 10, 12.
Meat	II. 26. 10.
Pearls—Gems were named after their place of origin. Thus they were known as Tāmraparṇika, Pāṇḍyaka vāṭaka, Kāśikeya, Kauleya, Chaurṇeya, Mahendra, Kārdamikam, Srautasīya, Hradīya, Haimvata. Further, on the basis of source (*yoni*) Kautīya mentions three varieties of gems --*sukti* (oyster-shells), *saṅkha* (conch-shell) and *prakīrṇaka. Prakīrṇaka* may include gems from elephant (*gajamuktā*).	II. 11. 2–3.
Sheep	II. 22. 6.
Silk—Kāśī and Chīna were known for this product. According to a tradition the eggs of the inscets and the seeds of the mulberry trees were carried to India by a Chinese princess concealed in the linking of her head-dress. Though generally the Chinese silk reached India through Central Asia, the silk	II. 11. 119.

Commodity	*Reference*
worm came to India, by a land-route via Brahmaputra Valley and then it was introduced in Khotan and Persia. *Encyclopaedia Britannica*, Vol. 20. p. 663.	
Skin—Kāntanāvaka, Praiyaka, Uttaraparvataka, Bisī, Mahābisī, Syāmikā, Kālikā, Kadalī, Candrottarā, Śākulā, Sāmūra, Cīnasī, Sāmulī, Sātinā, Nalatulā, Vṛttapucchā are the different varieties of skin. All those were found in the Himalayan region.	II. 11. 77. 100.
B. Plant and Plant-produce :	
Aguru—(raisin of aloe) It was produce in Pārasāmudraka, Doṅgaka and Jonguks (in Assam).	II. 11. 61–64, II. 22. 6.
Acid—Kauṭilya enumerated different kinds of plants and fruits which produce acid.	II. 15. 19–20
Bamboo	II. 17.
Barley	II. 15. 32; II. 24. 18.
Black pepper	II. 15. 21.
Bhūrja leaves	II. 17.
Carpet	II. 22. 6.
Coats (*varma*)	II. 23. 1.
Cooked rice	II. 22. 6.
Cloths (*vastra*)	II. 23. 1.
Curtain	II. 26. 6.
Cotton fabrics—Madhurā (in SouthIndia) Aparānta, western part of Kaliṅga, Kāśī, Vaṅga, Vatsa, Mahiṣa produced best quality of cloth. Wool (*ūrṇa*) fibre (*valkala*) cotton (*karpāsa*) panicle (*tula*) hemp (*saṇa*) and flax (*kṣauma*) were raw material support weaving industry.	II. 11. 117-20 ; II. 23. 2.
Cumin seed	II. 15. 21.
Dūraka (a kind of grain)	II. 24. 16.
Ginger	II. 18. 2.
Hingula	II. 12. 23.
Karpāsa	II. 15. 52.
Kaṭuka (*marica*)	II. 11. 6.
Kodrava	II. 15. 22; II. 24. 16.

Commodity	*Reference*
Kṣauma	II. 15. 52.
Long pepper	II. 15. 21.
Linseed (*atisi*)	II. 24. 18
Māṣa	II. 15. 33; II. 24. 16.
Masūra	II. 15. 38; II. 24. 16.
Millet (*priyangu*)	II. 15. 30; II. 24. 16.
Mudga	II. 15. 33; II. 24. 17.
Mustard (white)	II. 15. 21.
Oil of lin-seed, *nimba* and *tila*	II. 15. 49-50.
Śāli (a kind of rice)	II. 15. 28; II. 24. 16.
Śaibya	II. 15. 37
Sandal wood—(*candana*) Different varieties of *candana* are mentioned. They are Sātana, Gośīrṣaka, Haricandana, Tārnasa, Grāmeruka, Daivasabheya, Jāvaka, Joṅgaka, Taurūpa, Mālayaka Kucandana, Kālaparvataka. Kośakāraparvataka Śitodakīya, Nāga- parvataka, Sākala.	II. 11. 44, 59, 61 II. 119
Scents	II. 22. 6
Silk garment (*dukūla*)	II. 22. 6
Sugarcane	II. 24. 30
Sugar and sugar candy	II. 15. 15
Rope (*rajju*)	II. 23. 1
Tailparṇika—(*a kind of perfume*) Best kind is found in Asokagrāma. Other sources are Joṅgaka, Grāmeruk, Sauvarṇa kudyaka, Pūrṇakadvīpaka Bhadraśrīya in Pāra Lauhitya, Antarvatya (near Antaravedi riven in Kāmrūpa) Kāleyaka. (In Suvarṇa bhūmi) and from Uttaraparvata.	II. 11. 65-75.
Til	II. 15. 33 ; II. 24. 86.
Timber—Teak-wood	II. 8. 14; II. 11. 1.
Thread	II. 23. 1.
Uśīra	II. 11. 63.
Vrihi (*rice*)	II. 15. 27; II. 24. 16.
Wheat	II. 24. 18.
Wine—Kauṭilya ennumerates six kinds of wines. They are medaka, praśannā. āsava, ariṣṭa, maireya, and madhu.	II. 25. 17.

Commodity	*Reference*
C. *Mineral and Miscellaneous produce* :	
Arsenic (*haritāla*)	II. 22. 6.
Red arsenic	II. 22. 6.
Colouring minerals (*varṇadhātu*)	II. 22. 6.
Copper	II. 12. 12.
Diamonds—(*vajra*) Different varieties of diamonds according to source are Sabhārāṣtraka (Vidarbha) Madhyarāṣtraka (Kosala) Kasmīra. Srī Kaṭanaka (a mountain) Manimantaka (a mountain) Indaravānaka (Kaliṅga).	II. 11. 38, 39, 42.
Gold—The main varaieties of gold mentioned are Jāmbunada, śatakumbha, hāṭakā vaiṇava, sṛngausuktija Jātārūpa, etc.	II. 13. 3. 11
Lead	II. 12. 13.
Loha	II. 22. 6.
Maṇi—According to source they were known as Kauṭī, Moleyaks, Pārasāmudraka. Five varaities of *vajra*, on the basis of their coloure are mentioned. They are Saugandhika, Padmarāga, auavadyerāga, Pārijātapuṣpaka, Bālasūrya.	II. 11. 29.
Salt—Main varaities of salt were saindhava, sāmudra, viḍa, yavakṣhāra sauvarcala, udbhedaja.	II. 12.36-46. II.15.16.
Silver—Main varaities of silver were Tutthodgata, Gauḍika, Kāmbuk, Chākravālika.	II. 13. 13.
Tin	II. 12. 14.
Tīkṣṇa	II. 12. 15.
Thouch stone—Best variety of touch-stone was found in Kalinga.	II. 13. 25.

Commodities from theMahābharata and the Rāmāyaṇa

Commodity	*Reference*	*Remark*
Animal and Animal-produce :		
Ass.	*Mbh.*, II. 48. 11; *Rāmāyaṇa*, III. 64. 46.	
Blanket	*Mbh.*, II. 47. 3;	
Camel	*Mbh.*, II. 48. 11. II; 45. 20; II. 47. 4.	

Commodity	*Reference*	*Remark*
Cow	*Rāmāyaṇa*, I. 5. 13. *Mbh.*, II. 45. 20; *Ramayaṇā* I. 5. 13; II. 4. 19.	
Dog	*Rāmāyaṇa*, II. 70.20	
Elephent	*Mbh.*, II. 38. 19–20; *Rāmāyaṇa*, II.110.50	Noted regions for elephant were Assam, Himalaya and Vındhya mounntains.
Felts	*Mbh.*, II. 47. 23 II. 47. 4.	
Honey	*Mbh.*, II. 48. 5.	Khasa traders brought honey from Hımalaya region to plains.
Horse	*Rāmāyaṇa* I. 6. 22.; II. 45. 14; II 97. 24 *Mbh*, II. 45. 20.; II. 47. 48; II. 48. 22–23.	Noted regıons for horses were Gandhāra, Tukhara, Kankara. Kāmboja, Bāhlıka Sindha (Nadija), Assam, Bharukaccha and Arab (Vanāyu), The kıng of Kekaya made a gıft of 10000horses of Kāmboja.
Ivory	*Rāmāyaṇa*, II. 10. 14–15; III. 55. 10; V. 6. 5; V. 9. 23 etc.	
Leather	*Mbh.*, II. 48. 9; II. 45. 19	Kamboja was noted regıon for leather. It was included among the presents form Ceylon to Yudhiṣṭhira.
Silk (*Kauśīka*)	*Mbh.*, II. 48. 17.	Obtained from Bengal and China. The Chinese silk came to India through Bactrıa. A price-list of Chinese silk with a traders memorandum written on in Brāhmi

Commodity	*Reference*	*Remark*
		which was discovered at a ruined watch-station on the old Chinese limes, is a strong argument in favour of the view that traders from India coming to trade in silk, had already reached the limes in the later part of the first century B. C. A Stein, 'Asia Major, *Hirth Anversary Volume,* 1923 pp. 397–72.
Shawls	*Mbh.,* II. 47. 3.	Obtained from Kamboja.
Sheep	*Mbh.,* II. 48. 11.	
Skin	*Mbh.,* II. 47. 3.	Obtained from Kamboja. People of Kamboja presented skin to Yudhiṣthira.
Sheep-wool	*Mbh.,* II. 47. 3	
Woolen garment	*Mbh.,* II. 47. 3.	Obtained from Afghanistan.
Yak-tail	*Mbh.,* II. 48. 5.	Obtained from Tibet and Khasa country.
B. Plant-produce :		
Fabricks	*Mbh.,* II. 47. 22.	The fabricks made of wool (*ūrṇa*) of the raṅku goat's hair (*rāṅkavam*) of silk (*kītajam*) and of fibre (*pattajam*) were presented to Yudhiṣthira by Vāhlīka and China peoples.
Furniture	*Mbh.,* II. 47. 28.	Noted region for this was the Eastern country.

Commodity	*Reference*	*Remark*
Herbs	*Mbh.*, II. 48. 7.	Khasa brought powerful herbs from the mountain Kailāśa.
Dukūla—a kind of very fine cloth made from the fabrics of *dukūla* plant.	*Mbh.*, II. 48. 17.	Regions famous for *dukūla* garments were Vaṅga, Kaliṅga, Tāmralipti and Puṇḍra.
Karpāsa	*Mbh.*, II. 47. 7,	
Perfumes (*gandha* and *rasa*). Sandal wood (*candana*), aloe wood (*agarū*).	*Mbh.*, II. 48. 9.	
Printed cloth (*kanthā*)	*Mbh.*, II. 48. 30.	Obtained from Ceylon.
Patrorṇa—a kind of fabric.	*Mbh.*, II. 48. 17.	
Wine-manufactured from fruits (*phalajam madhu*).	*Mbh*, II. 41. 11.	
C. Mineral and Mineral produce :		
Arrows (of many varaities).	*Mbh.*, II. 47, 30.	
Ayasa	*Rāmāyana*, II. 40. 23. *Kālāyasa*, V. 41. 12.	
Brass	*Rāmāyana*, III. 29. 20.	
Copper	*Rāmāyana*, IV, 23. 20.	
Gold	*Mbh.*, II. 47. 16;	Noted regions were Dryaksha (Badkashan?), Romaka (Salt Range) Madraka and Kirāta country.
Pipīlikā gold	*Mbh.*, II. 48. 4.	Taṅgaṇas and Pārataṅgaṇas presented *Pipīlikā* gold to Yudhiṣthira. Herodotus says that

Commodity	Reference	Remark
		the gold-digging ants belonged to Kashmir and Afghanistan. *Herodotus*. III. 102-105. Megasthenes places them on the eastern border of Derdai. *Indica* 32. *Strabo* XV. 1. 44. and *Pliny* VI. 22; XI. 35. mentioin that the Derdais were getting gold from ants. Pipīlikā gold has been defined as Tibetan gold. But some identify it with Siberian gold. It was in the form of dust. Khasa and other tribes seem to have been the middlemen in bringing this kind of gold to India. *Geog Econ.*, pp. 82-83.
Iron (*loha*)	*Rāmāyana*, I. 37. 17; III. 47. 46.	
Kāṁsya	*Rāmāyana*, IV. 50. 34.	
Lead	*Rāmāyana*, I. 37. 20.	
Silver	*Mbh.*, II. 47. 16; II. 34. 4.	Obtained from Romaka.
Sword	*Mbh.*, II. 47. 1.	
Tin (*trapu*)	*Rāmāyana*, I. 37. 20.	
Vaidūrya	*Mbh.*, II. 48. 30.	Obtained from Ceylon.
Vassels made of amethyst	*Mbh.*, II. 47. 14.	

Commodities from the Classical Accounts

Commodity	Reference	Remark
A. Animal and Animal-produce :		
Butter	*Periplus*, 14.	Exported from Barygaza.

Commodity	*Reference*	*Remark*
Cattle—it included sheep, goat, ox, horse.	*Megasthenes and Arrian*, pp. 172-173.	
Cap (of leather)	Apollonius of Tyana, *Classical Accounts of India*, p. 387.	
Coral	*Pliny*, XXXII. 11. *Periplus* 28, 39, 49, 56.	Periplus mentions that it was imported into Kane, Barbaricum, Barygaza, Naura, Tundis, Muziris and Nelcynda. Indians set high value upon coral and regard it as the most sacred of amulets ensuring protection against all danger.
Fur and hide	*Periplus* 39.	Exported from China to Indian markets.
Fish	*Herodotus*, III. 100. *Megasthenes and Arrian*, p. 170.	
Gold dust	*Megasthenes and Arrian*, p. 79,	Megasthenes mentions rivers carrying down gold dust. Such gold dust was paid by way of tribute to kings.
Horns	*Periplus*, 36.	Exported from Barygaza to Omana.
Ivory	*Periplus*, 49-50, 52.	It was exported from Barygaza, Muziris, Nelcynda, and Dosorne to Rome. In Pompeii an ivory image has been excavated. It represents Indian goddess Lakṣmī.
Pearls	*Pliny*, XXXVII. 20; *Periplus*, 56.	It was exported from Muziris. and Nelcynda to Rome.

Commodity	*Reference*	*Remark*
Oyster (*sukti*)	*Periplus*, 59.	Imported in Gaṅgi.
Pearl (purpil)	*Periplus*, 24. 36.	Exported from Egypt to Muziris and from Omana to Barygaza.
Silk (thread)	*Periplus*, 64. 40.	The country of the Thinai imported silk into Barygaza Damerike and Barbaricum.
Slaves (female)	*Periplus*, 49. 31.	Slaves from Arab were brought to Barygaza.
Tortoise shell	*Periplus*, 16. 17.	
B. Plant and plant-produce :		
Amber	*Pliny*, XXXVII. 9;	
Barley	*Megasthenes and Arrian*, p. 53; *Pliny*, XVIII. 22.	
Bdellium	*Pliny*, XII. 12; *Periplus*, 39. 49.	Pure kind of bdellium was sold in Rome at 3 denarius per pound. It was exported from Barygaza though produced in the interior. Barbaricum also exported it.
Bosmorum	*Megasthenes and Arrian*, p. 53; *Pliny*, XVIII. 22.	
Cardamom	*Pliny*, XII. 29.	The price in Rome was 60 denrius per pound.
Clove	*Pliny*, XII. 15.	Indians sent it to Rome in vessels made from the skin of camels or rhinoceros.
Cotton (Chinese ?)	*Periplus*, 64.	Imported from the country of the Thinai through Bactria to Barygaza. It was an article of transit-trade.

Commodity	*Reference*	*Remark*
Costus (*kuṣṭha*)	*Pliny*, XII. 25; *Periplus*, 39.	It was sold in Rome at 5 denarius per pound. India exported it from Barygaza, and Barbaricum. The root of costus was used for producing odour. At Patal black and white two kinds were found. White costus is better than black one.
Datepalm	*Strabo* XV. 11. 7.	
Ebony	*Pliny*, XII. 8 ; *Periplus*, 36.	India produced two kinds of Ebony. It was exported from Barygaza to Omana and Rome.
Fig-tree	*Pliny*, XII. 10.	
Frankincense (*srīvāsa*)	*Periplus*, 12. 10. 39. 32.	
Fruit	*Ktesias*, 12.	Ktesias has mentioned that the people of Kynokephalois living on the mountain, had dried fruits, which they exchanged for loves of bread and flour from the Indians. *Ktesias*, Frag. 12.
Flax	*Megasthenes and Arrian*, p. 54.	
Garment—made of the finest musline.	*Megasthenes and Arrian*, p. 69.	
Ginger	*Pliny*, XII. 14.	
Grape	*Pliny*, XII. 28.	
Honey	*Periplus*, 49.	It was exported from Barbaricum and sold in Rome in 23 sestereos per pound.

Commodity	*Reference*	*Remark*
Indigo	*Pliny*, XXXV. 25. *Periplus*, 39.	
Karpāsa	*Periplus*, 48. 49.	Barygaza exported all kinds of muslins.
Linen garment	*Classical Accounts of India*, p. 393.	The king of Takṣaśilā presented to Appolioniuns of Tyana linen garments.
Lycium	*Periplus*, 39.	Exported from Barbaricum and Barygaza.
Marica	*Pliny*, XII. 16.	Exported in Rome for the use as medicine.
Malabathrum (*tamalapatra*)	*Periplus*, 65.	It was an article of transit-trade. Produced in the country of 'This' and exported to Rome etc from the ports of Gaṅgā, Muziris and Nelcynda.
Medicinal gum	*Pliny*, XII. 17.	
Medicinal plant	*Strabo*, XV. I. 2.	Strabo mentions that India produced many medicinal plants and herbs.
Millet	*Diodorus*, II. 38; *Strabo*, XV. 19; *Herodotus*, III. 100. *Megasthenes and Arrian*, p. 53.	
Nard of spikenard	*Pliny*, XII. 26; *Periplus*, 42. 56.	Exported from the Gaṅgā region, Muzaris, Nelcynda, Barygaza, Ozeni, Barbaricum. The price of spike-nard in Rome was 100 den arius per pound.
Oil, produced from chestnut, Sisamum, and rice.	*Pliny*, XI. 7.	

Commodity	*Reference*	*Remark*
Palm-tree	*Pliny*, XII. 28.	
Pepper (long pepper)	*Pliny*, XII. 14; *Periplus*, 49.	Exported from Barygaza. Price of long pepper in Rome was 15 denarius per pound.
Perfumes	*Megathenes and Arrian*, p. 75; *Strabo*, XV.	Perfumes of fruits and flowers were the favourite produce of the people who lived near the source of Ganges.
Pulse	*Megasthenes and Arrian*, p. 50.	
Rice	*Megasthenes and Arrian*, p. 53; *Strabo*, XV. 18. XV. 55; *Pliny*, XVIII. 22; *Periplus*, 14. 31.	
Robe	*Strabo*, XV.	
Sandal (logs of sandala)	*Periplus*, 36.	Exported from Barygaza.
Sandals of bark	*Classical Accouats India*, p. 387.	People in Taxila worn sandals made of fibre or bark or pipyrus.
Sesamum and its Oil	*Megasthenes and Arrian*, p. 53; *Pliny*, XIII. 22; *Periplus*, 41;	It was exported to Barbaricum from Barygaza.
Sugar	*Pliny*, XII. 17.	Indian sugar was regarded as of better quality in Rome than of Arabia.
Timber	*Strabo*, XV. 2. 7.	
Thread	*Pliny*, XIX. 2.	
Umbrella	*Megasthenes and Arrian*, p. 62; *Strabo*, XV.	
Wheat	*Megasthenes and Arrian*, p. 53. *Periplus*, 34.	
Wine	Pliny mentions grape wine (XXII. 26.), palm wine (XIV.19.), and wine from ivy plant (XVI. 62).	Produced at Cophen and Nysa.

Commodity	*Reference*	*Remark*
C. Mineral and Miscellaneous produce :		
Agate	*Pliny*, XXXVII. C. 10 ; *Periplus*, 45. 91.	
Arsenic	*Periplus*, 56.	Arsenic was imported into Barygaza from Egypt.
Coins (of gold and silver)	*Periplus*, 49.	Imported as bullion into Barygaza.
Copper	*Periplus*, 49.	Imported into Barygaza, Muziris, Nelcynda.
Corallis stone	*Pliny*, XXXVII. 56.	
Carnelian stone	*Pliny*, XXXVI. 23.	
Crystal	*Pliny*, XXXVII. 26.	Pliny says that Indians by colouring crystals have found a way of imitating a variety of precious stones, especially beryl.
Diamond	*Pliny*, 9, 20 ; *Periplus*, 56.	Pliny says that India is the sole mother of precious stones, and most of them were exported from Muziris, and Nelcynda to Rome.
Gems	*Periplus*, 63, 56.	Imported into the ports of Muziris and Nelcynda from Ceylon.
Gold	*Herodotus*, III. 102; *Megasthenes and Arrian*, pp. 94–95; *Strabo*, XV. 1. 44 ; *Periplus*, 24, 36.	Gold was imported from Egypt into the port of Barygaza.
Haematitis	*Pliny*, XXX. 41. 60;	
Iron	*Periplus*, 17, 137 ; *Trade Routes and Commerce of the Roman Empire*, pp. 44.	Indian Iron was exported to Arabia and Syria.
Lead	*Periplus*, 42, 45.	Imported into the ports of Barygaza, Muziris and Nelcynda from Egypt.

Commodity	*Reference*	*Remark*
Obsidian	*Pliny*, XXXVII. 65.	
Onyx	*Pliny*, XXXVII. 24.	
Opal	*Pliny*, XXXVII. 21.	
Salt	*Pliny*, XXXI. 39.	Obtained from the Salt Range. It supplied more revenue to the king than gold and pearls.
Sardonyx	*Pliny*, XXXVII. 23.	
Tin	*Periplus*, 56.	Imported into Barygaza, Muziris and Nelcynda from Egypt.
Vessel (of silver)	*Periplus*, 10, 24, 39, 49; *Classical Accounts of India*, p. 385.	Appolonius of Tyana informs that a discus of Indian silver was found in the treasury of Delphy.

Commodities from the Mahābhāṣya of Patañjali[1]

Commodity	*Reference*
A. Animal and Animal-produce :	
Blanket mentioned as *ajakambala*, paṇya *kambala, grāmakambala.*	Vol. I. p. 362, 420; Vol. II. pp. 83, 356, 344; Vol. III. pp. 126. 373
Camel	Vol. I. pp. 120, 247; Vol. II. pp. 258, 290; Vol. III. p. 27 etc.
Cow-mentioned as *panya gavah.*	Vol. III. p. 126.
Curd-mentioned in the context of barter	Vol. I. pp. 19, 32, 44, 115
Donkey	Vol. I. pp. 12, 136
Elephant-mentioned as *paṇyahasti.*	Vol. III. p. 126
Goat	Vol. I. p 466
Horse (*saindhaya*)	Vol. I. pp. 109, 150; Vol. II. p. 318.

1. This list has been prepared from F. Kielhorn's edition.

Commodity	*Reference*
Honey	Vol. I. pp. 19, 21, 32; Vol. II. pp. 64, 182; Vol. III. pp. 17, 50
Meat	Vol. I. pp. 25, 285, 480 etc.
Skin (*gocarma*)	Vol. I. p. 474
Saṅkha	Vol. I. pp. 4356436

B. Plant and Plant-produce :

Chariot—mentioned in the context of barter.	Vol. I. pp. 28, 128 etc.
Dāṇima	Vol. I. pp. 38, 217
Drākṣā	Vol. II. pp. 419–420
Dhānya	Vol. I. pp. 385, 452
Guggula	Vol. II. p. 227
Haridra	Vol. II. p. 271
Hārītikī	Vol. I. p. 228.
Kadalī	Vol, X. p. 24
Kṛṣṭapacyā	Vol. II. p. 86
Khadirasāra	Vol. II. p. 144
Kṛṣṇatila	Vol. I. pp. 399, 482; Vol. II. p. 345
Masūra	Vol. I. pp. 127, 328, 432; Vol. II. pp. 81, 102
Oil (of *tila* and mustard)	Vol. I. 120; Vol. II. p. 376
Pippalī	Vol. I. p. 216.
Rice	Vol. II. p. 120
Sandal	Vol. I. p. 413.
Yava	Vol. I. pp. 23, 42, 100, etc.

C. Mineral and Mineral produce :

Brass	Vol. III. p. 388.
Gold (furniture, jug, ear-ring of gold)	Vol. II. 69, 281, 499; Vol. III. p. 235
Iron	Vol. I. pp. 264, 27
Ratna	Vol. III. p. 332
Paraśu	Vol. I. pp. 159, 325
Pot	Vol. I. p. 153; Vol. II. pp. 60. 75.
Maṇi	Vol. II. pp. 397
Salt	Vol. I. p. 227; Vol. II. p. 330; Vol. III. p. 158.

Commodity	*Reference*
Trapu	Vol. I. pp. 110, 116, 158; Vol. III. pp. 49, 63 etc.

Commodities from the Caraka Samhitā

Commodity	*Reference*
A. Animal and Animal-produce :	
Ajinapaṭṭa	Ci. 25, 96
Āvika	Sū. 27, 323
Chagamāṅsa	Ci. 23, 67
Coral	Ci. 17, 12; Ci. 21, 88; Ci. 26, 56; Ci. 26, 246
Fish	Sū. 5, 11, 13, 11 ; Sū. 26, 82 ; Sū. 26. 93, etc.
Honey	Sū. 5, 12, 6, 12; 25–43; 26–84, 90;
Lac	Ci. 9, 61, 11, 15, 16, 107 etc.
Muktā	Ci. 96, 125; 21–81, 23–20.
Yajamaṅkkika	Ci. 23, 252. Sū. 14, 11; Vi. 3. 6. etc.
Sheep	Ci. 10, 48, 96, 116, 19, 40 ; Ci. 9, 61, 11–15, 17; 16–137, 66, 136, 145, 18, 94, etc.
B. Plant-produce :	
Agarū	Su. 3, 28, 4, 16 etc.
Agara candana.	Vi. 6, 16.
Atasī	Su. 3, 18, 13, 10 etc.
Arjuna	Su. 3, 5, 4, 16.
Agmonda	Su. 26, 157; Ci. 11. 37.
Banśa locana.	Ci. 18, 73.
Clove.	Ci. 26, 210, 28, 215.
Garlic	Sū. 2, 5; 3. 4. 26, 84.
Grape	Sū. 2. 10., 4, 10.
Guggulu	Sū. 3, 4, 16, 4, 40, 93, 48 etc.
Harītikā	Sū. 13, 92, 25, 40.
Harītpippalī	Ci. 13, 10.
Hiṅgu	Sū. 2, 29, 4, 13; Ci. 2, 4. etc.
Hari candana	Sū. 8, 9.
Ingudī	Ci. 1. 13.
Karcūra	Sū. 27, 155.
Karpūra	Ci. 28, 153.

Commodity	*Reference*
Kāliṅga	Ci. 329, 211 etc.
Kṛṣṇa tila	Ci. 19, 84.
Kesara	Sū. 5, 21; Ci. 1. 1 etc.
Kharjūra	Sū. 4, 16, 4, 40 etc.
Lodhra	Sū. 3, 5, 10, 12.
Lohavāna	Su. 27, 9.
Lohitacandana	Ci. 4, 102
Marica	Sū. 2, 3, 23, 3, 12; Ci. 2. I. etc.
Manjiṣṭha	Sū. 4, 10, 23, 3 etc.
Māṣa	Su. 2, 28.
Māgadhi	Ci. 2, 1, 2, 30 etc.
Masūra	Sū. 26, 28, 29 etc.
Audumbara	Sū. 5, 22, 25, 49 etc.
Pippali	Sū. 2, 3, 7, 18 etc.
Raktacandana	Ci. 26, 169, 30, 92 etc.
Sandal	Su. 3, 23, 4, 10 etc.
Sugar	Su. 4. 10.
Tagara	Su. 4, 17.
Tāmbūla	Su. 5, 77.
Tila	Su. 2, 26.
Turmeric	Su. 4, 9, 3, 11 etc.
Yava	Su. 2, 12, 3, 18 etc.
Minerals and Miscellaneous produce :	
Āgardhūma	Ci. 23, 51; Si. 6, 25, 9, 51.
Agrya lavaṇa	Ci. 23, 96.
Anjaña	Su. 1, 70; Su. 3, 5.
Adrijana	Ci. 16, 18.
Amṛita Śaṅga	Su, 3, 10; Ci. 14, 15; Ci. 25, 117.
Ayasa	Su. 1, 1, 31; Ci. 1–4 etc.
Arka (a kind of *mani*)	Ci. 7, 85.
Aśmaka	Su. 8, 34, 42 etc.
Aśmakasisa	Ci. 25, 100.
Brass	Ci. 24–154, Ci 3, 7.
Guḍa	Su. 1. 138.
Gandhaka	Ci. 7, 71.
Girija	Ci. 1, 3, 64.
Gairika	Su. 1, 70, 3, 5; Ci. 4. 73 etc.

Commodity	*Reference*
Hiraṇya	Ci. 8, 2 etc.
Haritāla	Su. 5, 26; Ci. 7, 114 etc.
Lavaṇa	Su. 1, 70, 8, 20 etc.
Lomaṣa	Su. 3, 4.
Loha	Ci. 9, 30, 80 etc.
Manahśilā	Su. 1, 70, 3, 5 etc.
Markata	Ci. 23–252.
Maṇi	Su. 1, 70, 6, 31 etc.
Maṇḍūra	Ci. 16. 74, 95, 103.
Rajas	Ci. 12–21, 42 etc.
Rajata	Ci. 8, 9, 11, 3, 16 etc.
Ratna	Su. 8, 19.
Rukma	Su. 8, 44.
Raūpya	Su. 5, 74.
Raūpya silājatu	Ci. 1–3, 1, 58.
Romaka	Ci. 8, 141; Ci. 15, 48.
Romasa	Ci. 29, 152.
Saṅkha	Ci. 1, 4, 1, 21, 3, 262 etc.
Saṅkhaṇābhi	Ci. 26, 242.
Śarkarā	Ci. 27, 51.
Śilajatu	Su, 21–24, 24–56 etc.
Śukti	Ci. 21-28.
Sarpamaṇi	Ci. 23, 252.
Sarvaloha	Ci. 1, 3, 46.
Sāmudra	Su. 1- 89; Ci. 8, 141.
Sāra	Ci. 23, 252.
Sisaka	Sa. 3, 16; Ci. 6, 88; Ci. 17, 126.
Suvarṇa	Su. 1, 70, 5, 74; Su. 8, 34; Ci. 1–2; 4, 3, 46, Ci. 24, 15; Su 3–6.
Sūryakānta	Ci. 8, 18.
Saindhava	Su. 1–88 ; 5, 12, 25, 38 ; 26–49 ; 27–30; Vi. 8, 141.
Saugandhika	Su. 3–10; Ci. 17, 126.
Caurāṣtri	Ci. 7, 115; 15, 158; 30, 79;
Saurvirāñjana	Sū. 5–19.
Sphatika	Ci. 1–4; 22; 17–122.
Tāmra	Ci. 1. 131, 5. 74 etc.

Commodity	*Reference*
Tāmra Śilājatu	Ci. 1. 3., 1-58 etc.
Tāmra rajata.	Ci. 23. 239.
Trapu	Su. 5. 74, Sa. 3. 16 etc.
Vajra	Ci. 6. 62. 23. 252.
Vidruma	Vi. 8. 9.
Vaidūrya	Ci. 3, 7. 12. 1. 4. 12.

APPENDIX—B

A NOTE ON BARTER

Exchange is a simple affair of giving or taking of a thing for another. When exchange is done not to acquire a thing of choice but for profit, it is done either through any medium, i.e., money and currency or through barter. Therefore barter is a traffic by exchange of commodities. The antiquity of barter as a mode of sale can be traced to the time when man in India for the first time acquired so much amount of technical skill (particularly in the manufacture of stone implements) that he could produce surplus. [1] In early economic society, the scope of such mutual exchange by barter, however, was very limited but the scope of barter increased with the rise in the volume of technical production.

It is very curious that even when the scope of Indian trade in the period of Harappa culture became international the mode of exchange remained simply barter, though the skill of the age in manufacturing weights and measures as well as seals has been proved beyond doubt. [2] No coin has been discovered as yet from any of the Indus valley cites, so far excavated. [3] The same state of affairs continued even during the early period of the Aryan civilization. The trading class of Paṇis of the Ṛg-Vedic times was named after the root *paṇ*, meaning barter. [4]

This shows that the most common mode of commercial exchange in the early Vedic times was barter, [5] though as we have referred to above the system of non metallic money was

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1. Supra., pp. 10, 11, 14.
2. Supra., p. 195.
3. Supra., p. 156.
4. *Corporate life in Ancient India*, p. 1; *Economic History of Ancient India*, pp. 41, 42; *Economic Condition of Ancient India*, pp. 35–36.
5. *J.R.A.S.*, 1901, p. 876.

also in use.[1] But the scope of money throughout the Vedic period was very limited and the bulk of trade was carried through barter. Thus in the *Yajur Veda* an instance[2] of mutual exchange of commodities of equal value has been recorded. The *Atharva Veda* also proves the practice of barter in that age. *Prapaṇa* and *pratipaṇa*[3] were the common terms of exchange. In the age of later *Saṁhitās* also the barter system continued along with the money-economy. The sanctity of barter system was so high in relation to the sale through the medium of money that in certain conditions the Brāhmaṇas[4] were allowed to earn their livelihood by barter whereas in no condition they were permitted to do so by selling a thing for money.

The *Jātakas* refer to several instances of barter. Thus one *Jātaka* mentions that a certain vagrant purchased a meal by giving a gold pin.[5] Similarly a man purchased a dog with a cloak.[6] Sometimes bigger transactions were also made through barter. Thus it is said that a person exchanged five hundred waggons of ware with the commodities of corresponding value.[7] A potter is referred to as bartering his pots with rice, barley and pulse.[8] Sometimes the traders earned twice and thrice their value by barter.[9] But contrary to the aphorism of *Dharma Sūtras*, the Buddhist principles do not prefer barter to sale and thus place the both at the same footing and forbid the monks not to practice either. They had to undergo *Nissaggiya Pācitiya* for all sorts of barters and exchange (*parivaṭṭehi*)[10]

1. Supra., p. 156.
2. देहि मे ददामि ते नि मे धेहि नि ते दधे।
   निहारञ्च हरासि मे निहारन्निहराणि ते स्वाहा॥ *Y.V.*, III. 50.
3. *A. V.*, III. 15. 4.
4. *Vasiṣṭha Dharma Sūtra*, II. 24–29.
5. *Jātaka*, Vol. VI. p. 519.
6. *Buddha Kālina Bhūgola*, p. 547.
7. *Jātaka*, Vol. I. p. 377.
8. *Milinda*, 81.
9. *Vinaya*, Vol. III. p. 241.
10. Ibid., Vol. III. p. 241.

Pārājika Vagga, while explaining *kaya-vikkayo* states that the bartering of a thing means 'if one transfers (*ajjhacarati*) saying 'give this for that, take this for that, give this in exchange for that'...'or if one gives ones own goods to the hand of another or another gives his goods to him.' [1]

We find the evidence of barter-system in the works of Pāṇini and Patañjali. In the time of Pāṇini, the barter was a very common mode of transaction though the range of articles covered by barter mostly concerned simple things of ordinary use such as food, clothing and domesticated animals. It is indicated that weavers used to exchange pieces of cloths with utensils, which were called *vasana*. [2] Similarly the term *gaupucchika* may be explained as the object received in exchange of one cow. [3] Patañjali suggests that in his time barter was used sometimes in bigger transactions. Thus he mentions *pañcabhir-gobhiḥ krītaḥ pañcaguh* [4] and *pañcabhikroṣṭrībhiḥ krītaiḥ rathaiḥ pañca-kroṣṭṛbhi rathaiḥ*.[5] Similarly the use of *dvi-kaṁbalya, trikaṁbalya* cited on IV. 1. 22 of *Aṣṭādhyāyī* refers to a sheep purchased for two or three *kaṁbalya* measures of wool; one *kaṁbalya* being equal to 5 seers. [6]

Some conventional ratio of barter can be deduced from the grammatical rules of the *Aṣṭādhyāyī*. The *sūtra* '*saṁkhyāyā guṇasya nimāne mayaṭ*' [7] indicates the barter ratio, on the pattern that the price of a portion of one thing is equal to so many portions of the other. [8] The valuation is to be determined on the basis of *nimeya* (the thing to be bought) with several portions of *nimāna* (the thing to be given in

1. *Vinaya*, Vol. III. p. 241.
2. *Aṣṭādhyāyī*, V. 1. 27; *India as Known to Pāṇini*, p. 248.
3. *Aṣṭādhyāyī*, V. 1. 19; *India as Known to Pāṇini*, pp. 248-49.
4. *Mahābhāṣya* on I. 2. 44; Guru Prasad Sastri, *Pātañjalam Mahābhāṣyam*, Vol. I. p. 55; *India in the Time of Patañjali*, p. 130.
5. *Mahābhāṣya* on VII.1.96; *Pātañjalam Mahābhāṣyam*, Vol.VII. p. 83.
6. *India as Known to Pāṇini*, p. 249; *Kāśika* on V. 1. 3.
7. *Aṣṭādhyāyī*, V. 2. 47.
8. *India as Known to Pāṇini*, p. 248; *India in the Time of Patañjali*, p. 129.

exchange). V. S. Agrawala determines the ratio on the basis of Pāṇini between *nimāna* and *nimeya* as X. : 1. *Nemeya* is always 1 and it is never more than 1, i.e., the ratio will never be as X : 2 or X : 3. [1]

On the *sūtra, saṁkhyāyā guṇasya nimāne mayaṭ* there are five *vārtikas*, which explain the rule of barter in the time of Kātyāyana more clearly than the *sūtra* of Pāṇini. [2] The first *vārtika* is *nimāne guṇini*. This shows that the basis of valuation is the thing to be bought (*nimeya*). The second *vārtika* is *bhūyasaḥ*. According to this rule the portion of *nimāna* must be more than the portion of *nimeya*. The third *vārtika* is *eko'nyataraḥ* which explains the rule that the portion of *nimāna* must be valued with only one portion of *nimeya*. The *vārtika bhāṣya* gives here an example. [3] It says that one should not value the two portions of *yava* with three portions of *udaśvit*. But one should value two portions of *yava* with one portion of *udaśvit*. The fourth *vārtika* is *samānānām*. There is some difficulty in explaining this *vārtika*. In the *vārtika* it has been explained that the ratio cannot be fixed between one portion of *yava* and one and a half portion of *udaśvit*. [4] Probably, Kātyāyana here means that the portions of *nimāna* and *nimeya* must not be in fractions. But as the *vārtika, ekonyataraḥ* emphatically says that *nimeya* always should be one, the example *eko yavānāmadhyardhamudaśvitaḥ* is not proper. This example is also not befitting because the *vārtika 'bhūyasaḥ'* explains that the portion of *nimeya* must not be more than *nimāna*. But perhaps the *vārtika 'samānānām'* refers to the basic principle of barter that the valuation of *nimāna* as well as *nimeya* always should be equal.

In the time of Patañjali while barter was a common mode of transaction not only for ordinary goods, but also for the

1. *India as Known to Pāṇini*, p. 248.
2. *Pātañjalam Mahābhāṣyam*, Vol. V. pp. 381–83.
3. एकश्चेदन्यतरो भवतीति वक्तव्यम्। इह मा भूत्–द्वौ यवानां त्रय उदश्वित इति, *Pātañjalam Mahābhāṣyam*, Vol. V. p. 382.
4. इह मा भूत एको यवानामध्यर्धमुदश्वित इति। *Pātañjalam Mahābhāṣyam*, Vol. V. p. 382.

things such as *ratha*, camels, blankets etc. [1] the mode of fixing ratio between *nimāna* and *nimeya* was considerably changed. Patañjali has rejected all the *vārtikas* referred to above on the basis that they were, in his time, out of use (*anabhidhānāt*). [2] While commenting on the fifth *vārtika* (*nimeye cāpi dṛśyate*)[3] of the same *sūtra*, Patañjali explains that in *nimāna* as well as *nimeya* there is no difference because in barter, the seller as well as the buyer use to give the things to one another (*samāne tyāge*). Therefore the distinction between *nimāna* and *nimeya* is fictitious. But as it is said that *dhānya* is sold, '*yava* is sold', nobody says that '*kārṣāpaṇa* is sold,' [4] it can also be understood that the thing given is *nimāna* and the thing bought is *nimeya*. Kaiyaṭa has opined that the distinction between *nimāna* and *nimeya* can be determined on the basis of custom of *deśa* and *kāla*. [5]

B. N. Puri says that according to Patañjali, in a barter transaction three persons are necessary—the person who gives, the person who takes and the person who watches the transaction. [6] But it seems that this *sūtra* [7] as well as it's *bhāṣya* [8] refer to all sorts of transactions such as gift, sale, mortgaze etc. and its scope does not include only barter.

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1. *India in the Time of Patañjali*, p. 230.
2. *Mahābhāṣya* on V. 2. 47; *Pātañjalam Mahābhāṣyam*, Vol. V. pp. 382–383.
3. Ibid., Vol. V. p. 383.
4. Ibid., Vol. V. p. 383.
5. देशकालापेक्ष्यव्यवहारापेक्षत्वान्निमाननिमेयभावस्य । Ibid. Vol. V. p. 383.
6. *India in the Time of Pātañjali*, p. 131.
7. साक्षाद्द्रष्टरि संज्ञायाम् । *Aṣṭādhyāyī*, V. 2. 91.
8. While explaining the *sūtra* above mentioned Patañjali says—त्रिभिः साक्षाद्द्रष्टव्यं भवति—यस्य ददाति यस्मै च दीयते यश्चोपद्रष्टा…… । *Pātañjalam Mahābhāṣyam*, Vol. V. p. 399.

APPENDIX—C

SOME CONVENTIONAL NAMES OF ROUTES AS KNOWN FROM LITERARY SOURCES

Trade-routes were known in ancient India as *vaṇikpatha* which included land as well as water routes.[1] In the Vedic literature we get the names of several types of routes like *Devayānapatha*[2] and *Hiraṇyapatha*[3] but their actual significance is difficult to understand. Perhaps, such terms were applied for good routes. It seems, in those days there was a system of classifying the routes on the basis of the type of vehicles used on the routes. Thus the expression like *Rathayāna tyāte,*[4] according to Whitney, indicates the type of route good for chariots.[5] From the *Jātakas* and the *Digha Nikāya* we learn about *Hatthimagga,*[6] *Vanapatha,*[7] *Vettācārapatha, Saṁkupatha*[8] and *Vaṇṇ ī-patha,*[9] etc. In the *Mahāniddesa* we get names of some more types of routes. They include *Jaṇṇūpatha* (correct reading may be *Vaṇṇūpatha* (in Pali) or *Varṇupatha* (in Sanskrit), *Ajapatha, Meṇḍhapatha, Saṁkupatha, Chatta patha, Vaṃsapatha, Sakunipatha, Musikapatha, Daripatha* and *Vettācārapatha.*[10] It also refers to *Araññavanapatha.*[11] Similarly *Gaṇapāṭha* of Pāṇini while explaining *Devapathādibhyaśca* enumerates, *Devapatha, Haṃsapatha, Vāripatha, Rathapatha, Sthalapatha, Jalapatha, Rājapatha, Karipatha,*

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1. स्थलपथो वारिपथश्च वणिक्पथः । *Artha.*, II. 6. 8.
2. *R.V.*, VI. 69. 1; VII. 75. 1; VI. 76. 2.
3. *A.V.*, V. 4. 5.
4. Ibid. IV. 34. 4.
5. *A.V.*, translated by Whitney, Vol. I. p. 206.
6. *Jātaka*, Vol. II. p. 102.
7. *Aṅguttara Nikāya*, I. 2. 1.
8. *Jātaka*, Vol. III. pp. 485. 841.
9. Ibid., Vol. I. p. 107.
10. *Mahāniddesa*, Vol. I. p. 155; Vol. II. p. 415.
11. Ibid., Vol. I. p. 153.

Ajapatha, Śatapatha, Śaṃkupatha, Sindhupatha, Siṁhapatha [1] etc. Kātyāyana also refers to *Ajapatha* and *Śaṃkupatha.* [2] In the *Milinda Pañho, Ajapatha* and *Śaṃkupatha* are mentioned in the commercial context. [3]

The explanation of some of these routes is obvious. But there are many whose interpretation is difficult. Routes like *Hatthimagga* and *Siṃhapatha* were the wild tracks like *Vanapatha* and *Kantārapatha.* The routes known as *Ajapatha* (goat-tracks) and *Meṇḍhapatha* (ram-tracks) were the narrow tracks of mountainous regions. The *Muṣikapatha* (mouse-passage) and *Darīpatha* (cavern path) probably were the mountainous passes and tunnels.

The *Jaṇṇūpatha* or *Vaṇṇūpatha* was the route going through desert. According to V. S. Agrawala *Jaṇṇūpatha* was in the Sindha Sagar doab. [4] The significance of *Śaṃkupatha, Chattapatha, Vaṃsapatha, Śakunipatha* and *Haṃsapatha* is obscure. V. S. Agrawala explains *Vaṃsapatha* or *Vetrapatha* as bamboo-tracks. [5] But elsewhere he says that *Vaṃsapathas* were routes, where the path was made by bending bamboos or canes grown on the banks of the rivers. [6] But *Vaṃsapatha* or *Vetrūcārapatha* was probably some sort of long bridge made of *vetra* (cane) or *vaṁsa* (bamboo) or rafters on which people passed from one side of the river to another by rowing. Likewise, it seems, that *Chatrapatha* was the route where the use of umbrella was essential. *Śaṃkupatha* was probably the mountainous route in which the traveller has to scale hights with the help of spikes or nails carefully driven into the hill side. [7] Motichandra points out that *Śakunipatha* denoted the

1. *Pāṇini Gaṇapāṭha,* on V. 3. 100.
2. *Pāṇini Kālina Bhārata,* p. 235.
3. *Milinda.,* 280.
4. *India as Known to Pāṇini,* p. 243.
5. Ibid., p. 243.
6. *Pāṇini Kālina Bhārata,* p. 235.
7. *India as Known to Pāṇini,* p. 243; Rhys Davids explains it as the path full of stakes and sticks. *Pāli English Dictionary,* (P.T.S.), p. 122.

route which birds used to pick up the travellers who had rapped themselves in skin, thinking them to be the pieces of meat and leave them for away.[1] But inspite of the fact that story of *Bṛhatkathā śloka Saṅgraha* gives the similar description of *Śakunipatha* [2] the meaning of *Śakunipatha* is not clear and thus it is difficult to understand as to what type of route *Śakunipatha* exactly denoted.

Kauṭilya has classified the various types of land-routes on the basis of their military, administrative and economic significance. [3] In the former group comes the kings way (*Rājamārga*). Such *Rājapatha* or *Rājamārga* connected the various administrative headquarters from where there were routes known as *Sthānīyapatha* and *Droṇapatha*. Similarly, the routes leading towards rural areas were known as *Rāṣṭrapatha*. The military routes according to Kauṭilya, were called *Vyūhapatha*. All such types of routes, as mentioned above, besides military and administrative importance had commercial significance also because they were connected with the important centres of government as well as commerce. The routes which might be said to be purely of economic significance were called *Vivitāpatha* (leading to pasture lands), *Setupatha* (leading to irrigated fields), *Vanapatha* (the path of forests) and *Kṣetrapatha* (paths leading to cultivated fields). These routes probably connected the various productive centres of the state. *Sanyānipatha* was the real type of trade-route because it passed through various market-towns of the country. [4] The significance of *Hastipatha* and *Rathapatha* was probably military and thus it may be pointed out that Hastipatha of the *Arthaśāstra* was different from the *Hatthimagga* of the *Jātaka* [5] which was merely a wild track. *Kṣudrapaśupatha* and *Manuṣya patha*

1. *Sārthavāha*, p. 137.
2. *Bṛhadakathā Śloka Saṅgraha*, XVII. p. 416; See also Silvan Levi, 'Ptolimee la Niddesa et la Bṛhadakatha' *Etudes Asiatique*, Vol. II. pp. 1–55.
3. *Artha.*, II. 4. 4. 8.
4. *Chandragupta Maurya and His Times*, p. 209.
5. Supra., p. 310.

were certainly the narrow tracks like *meṇḍhapatha* of *Mahāniddesa*, [1] having in all probability little commercial value. In the *Arthaśāstra* those types of routes are also mentioned which were useful for asses and mules (*Kharoṣṭrapatha*) [2] and for men carrying loads on their shoulders (*Aṁsapatha*). [3] This classification as it seems, was made with the view of transport of goods and such types of routes were also narrow tracks.

The general term to denote water-route was *Vāripatha* or *Jalapatha*. Kauṭilya, however, classifies the water-routes in three groups (1) coastal routes (Kūlapatha) (2) routes going through mid ocean (Saṁyānapatha) and (3) river-routes (*Nadīpatha*). [4]

The respective significance of above mentioned routes from the point of view of commerce has been indicated by Kauṭilya and others. [5] Some ancient writers, earlier than Kauṭilya, preferred water-routes to the surface routes, because of the reason that they require less money and labour for maintenance and yield more profit. [6] But Kauṭilya disapproved the view and pleaded the superiority of the land-routes on the basis of the fact that water-routes, in comparision to land-routes are neither free from obstacles, nor permanent, nor safe, nor capable of defence [7] Of the water-routes he preferred river-routes due to their safe and smooth passage. [8] He also pointed out that the coastal routes are better than the routes going in the mid-ocean. The greatest advantage of coastal routes is that they touch many trading ports (*paṭṭana*). [9] Kauṭilya

1. Supra., p. 310.
2. *Artha.*, VII. 12. 38.
3. Ibid., VII. 12. 31.
4. Ibid., VII. 12. 29.
5. Ibid., VII. 12. 25–26.
6. Ibid., VII. 12. 27.
7. Ibid., VII. 12. 28.
8. Ibid., VII. 12. 29.
9. Ibid., VII. 12. 29.

has also opined that the land route, even if it passes to difficult region, should be given preference, if they connect regions of precious commodities. This is the reason that he recognises the superiority of Dakṣiṇāpatha which passes through the source and the mines of various precious commodities. [1]

He has also indicated that Dakṣiṇāpatha or such routes going to the source of wealth and mines were easy and less expensive in comparision to the Northern routes. [2]

Kauṭilya has classified the routes on the basis of vehecular transport also. Thus he says that cart-tracks are better than the foot path. [3] He has recognised the merits of tracks good for ass or camels [4] or men carrying the loads [5] in the mountainous regions. It is to be pointed out here that though Kauṭilya preferred South Indian routes, some other theorists regarded the routes leading to Himalayan region (probably Uttarāpatha) as of more commercial significance than those of the Dakṣiṇāpatha. [6]

1. *Artha.*, VII. 12. 34.
2. Ibid., VII. 12. 34.
3. Ibid., VII. 12. 37.
4. Ibid., VII. 12. 38.
5. Ibid., VII. 12. 39.
6. Ibid., VII. 22. 30.

APPENDIX—D

A NOTE ON THE GEOGRAPHY OF PĀṆḌAVAS' DIGVIJAYA ROUTE

We have remarked above[1] that the account of the Pāṇḍavas' campaign in different directions is not geographically accurate and it is simply a traditional list of ancient tribes and territories of ancient India. From Indraprastha Arjuna started his campaign in the north direction [2] and entered the territory of Kulindas. The Kulindaviṣaya may be identical to Kuṇinda territory which was comprised the modern district of Saharanpur and Ambala. [3] Immediately after this the account becomes incorrect. It mentions Ānarta, Kālakūṭa, then again Kulinda, the territory of king Sumaṇḍala, Sākala, Prativindhya, Prāgjyotiṣa, the tribes of Kirāta, Cīna, and some isles surrounded by sea. Except Sākala rest of the places and tribes cannot be located in the north or north-west of Indraprastha. But the author had some knowledge about some of the *Janapadas*, which actually existed in the north and the north-west of Indraprastha. Thus, besides many places, whose identification is uncertain, such as Modāpur, Vāmadeva, Sudāma, Ulūka, Devaprastha, Utsavasaṅketa, Dārva, Kokanada, the territory of Uraga, Rocamāna, Siṁhapura, Loha etc., Trigarta (near Jalandhara), the territory of Paurava (in the Madra) Kasmir, Abhisāra, Bāhlīka, Darada, Kāmboja, Parama Kāmboja, Ṛṣika, were the Janapadas which either situated on the Uttarāpatha or on any of its off shoots. The ennumeration of Suhma, Cola etc. in the list of northern *Janapadas* is hopeless. The names of hilly *Janapadas* and tribes in connection with Arjuna's campaign such as Śvetagiri, Kimpuruṣa, Hāṭaka, Mānasarovara, the Gandharva territory, Harivarṣa, Uttarakuru, though not mentioned in the geographical order, were probably

1. Supra., p. 61.
2. *Mbh*. Sabhā, 26–28.
3. D. C. Sircar, *Studies in the Geography of Ancient and Medieval India*, p. 24.

within the approach by difficult, hilly tracks. But we are unable to form any definite idea about this route.

The eastern region was conquered by Bhīma. The textual account of the campaign [1] is not free from ambiguity and inaccuracy. The places falling on different offshoots of Uttarāpatha have been mentioned as if they all were situated on one and the single route. The two extreme and distant centres of Uttarāpatha, Hastināpura and Tāmralipti are mentioned. But the account of the route from Hastināpura to Girivraja via Ahicchatra is not only cursory but misleading also. Thus immediately after Ahicchatra, the author wrongly describes Videha, Rocamāna, Pulinda and the territory of Śiśupāla (Aṅga). The geographical location of Kumāravarṣa, Gopālakakṣa, Supārśva, Paśubhūmi, Madadhāra, Somadheya, Śuktimat Maṇimat and the tribes such as Bharga, Niṣāda, Bhogavat, Sarmaka, Varmaka, Śaka, Barbara, Kirāta etc. is either uncertain or difficult to locate on any of the routes between Hastināpura and Girivraja. But the mention of Kosala, Uttara Kosala, Malla, Dakṣiṇa Malla and Videha, may indicate that the author of the *Mahābhārata* had some idea of the northern offshoot of Uttarāpatha which from Kauśāmbī went to Kosala and then finally merged in the Uttarāpatha near about Girivraja via Malla and Videha. The places and the peoples described with same ammount of accuracy on this route are Indraprastha, Ahicchatra, Vatsa, Kāśī, Malada (and probably Anagha and Abhaya also). Matsya was not on the route of Bhīma. [2] The author also had a very faint idea of the route, which from Girivraja went to Daśārṇa and to the territory of Pulindas via Gaya. But the description of Bhima's campaign in the east of Magadha is remarkably accurate. Leaving Girivraja his army captured Aṅga the territory of Karṇa and defeated Modāgiri (Monghyr), Puṇḍra and his allied at the bank of Kosi. Next he overpowered Vaṅga, Tāmralipti (Tamaluk in

1. *Mbh.* Sabhā, 29-30.
2. Matsya has been mentioned also in the campaign of Sahadeva. *Mbh.*, Sabhā, 31. 2.

the Midnapur district) Karvaṭa (Kharwars of Midnapura), Suhma[1] (in the Hoogli district) and Prasuhmas and the Mlecchas of the coastal region. This account shows that Bhīma followed closely the eastern part of the Uttarāpatha. From he might have to Lohitya (Brahmputra region) by having a different route.

Now we may come to the conquest of Sahadeva,[2] who led his campaign in the south. It seems that the author had some geographical informations about the route and the *Janapadas* of Dakṣiṇāpatha up to Narmada valley in the south. Thus the author knew the route from Hastināpura to Avantī or Ujjain which passed through Matsya and Sūrasena *janapadas* and some of the tribes described in the text such as Niṣāda and the Jambhakas, in the valley of Carmaṇyavatī (Chambal), Seka and Aparaseka, Vinda and Anuvinda in the Avanti region. The route from Avanti to Māhiṣmatī has not been properly described and same is the case with the route which connected Māhiṣmatī with the Sūrpāraka. But the author knew some of the important route links of Dakṣiṇāpatha proper. Thus he shows the knowledge of the route which from Māhiṣmatī connected Tripura, and Bhojakaṭa or Bhojakaṭapura and also the territory of Kantāra and Dakṣiṇa Kosala as well as approached the locality of Pulindas in the Āndhra region. The identification of rest of the places given in the text is uncertain and difficult to locate. Similarly the places mentioned below Godāvarī show a very poor knowledge of South Indian route and besides a few historical names of the places and tribes such as Kiṣkindhā, Daṇḍaka, Niṣāda, Vātāpī, Kerala, Pāṇḍya, Laṅkā etc. rest[3] do not give the sense of co-herent geography and topography and thus one can not form any idea of the routes of the South India below the river Godāvarī. The mention of Āndhra and Kaliṅga after Kerala and Pāṇḍya, is obviously misleading.

1. Suhma and Prasuhma have been mentioned twice in the list. *Mbh.*, Sabhā, 30. 16 and 26.
2. Ibid., Sabhā, 31.
3. Ibid., Sabhā, 31. 60-73.

Nakula has been described as the conqueror of the west. But curiously enough his campaign instead of the west was confined to North-Western India only, i.e. from Khāṇḍavaprastha to the Madra Janapada. From Khāṇḍavaprastha Sahadeva came to Rohitaka and then capturing some minor tribes on the border of Marwar desert entered Trigarta, Ambaṣṭha, Mālava, Ābhīra and Madra. The janapada of Śivi was approachable through this route. Identification of Śairīṣaka, Mahotha, Pañcakarpaṭa, Vāṭadhāna, Utsavasaṅketa, Uttarajyotiṣa, Divyakaṭa etc. is uncertain and difficult to locate on this route. Similarly the tribes mentioned in the list, such as Rāmatha, Hārahūra, Pahlava, Barbara, Kirāta, Mleccha, Yavana etc. are also out of context. Daśārṇa and Mādhyamikā were also not on this route.

Thus we can conclude that our study of the names and the places mentioned in connection with the digvijaya route of the Pāṇḍavas suggest that the description may be true here and there and may provide a general outline of the route, but on the whole the author of the *Mahābhārata* more aimed at giving the list of the tribes and the territories of ancient India on the pattern of *bhuvanakoṣa* rather than providing the accurate geography of the Pāṇḍvas' campaign.

SELECT BIBLIOGRAPHY

A. Texts and Translations :

Ācārāṅgasūtra, Rutlām, 1941; Tr. H. Jacobi, (S. B. E.) Oxford, 1892.

Aitareya Brāhmaṇa, Ed. T. Aufrecht, Bonn, 1879; Tr. A. B. Keith, Cambridge, 1920.

Aṅguttara Nikāya, (P. T. S.) London, 1885–1900.

Anabasis Alexandri and Indica of Arrian, (Loeb Classical Library), London 1949, Tr. Mc. Crindle, *Invasion of India by Alexander The Great*, West minister, 1893.

Aṅgavijjā, Varanasi, 1957.

Apadāna, (P. T. S.) London, 1925–27.

Āpastamba Dharmasūtra, G. Buhler, Bombay, 1892; Tr. (S. B. E.) Vol. II. Pt. I. Oxford, 1879.

Aṣṭādhyāyī of Pāṇini, Varanasi, 1950.

Arthaśāstra of Kauṭilya, Ed. R. Shamasatry, Mysore, 1919; Ed. T. Ganapati Sastri, Trivendram, 1924–25. Ed. Vekatanathacharya, Mysore, 1960; R. P. Kangle, Bombay, 1963–66; Tr. R. Shamasastry, Mysore, 1929; Tr. Ganga prasad Sastri. Delhi, V. S. 2010.

Atharvaveda, Ed. R. Roth and W. D. Whitney, Berlin, 1856.

Avadānaśataka, Darbhanga, 1958.

Baudhāyana Dharmasūtra, Ed. E. Hultzsch, Leipzig, 1884, Tr. (S. B. E. Vol. XIV. Oxford, 1882.

Bṛhadāraṇyaka Upaniṣad, Leipzig, 1819.

Buddhacarita, Ed. S. N. Chaudhari, 1955.

Buddhistsūtras, (S. B. E.) Vol. XI. Oxford, 1881.

Carakasaṁhitā, Lahore, 1929.

Chau Ju Kua. Tr. F. Hirth and W. W. Rockhill. St. Petersburg, 1911.

Chāndogya Upaniṣad, Ed. O. Böhtlingk, Leipzig, 1889.

Dhammapada, (P. T. S.) London, 1914; Tr. (S. B. E.) Vol. X. Oxford, 1881.

Dhammapada Aṭṭhakathā, Tr. (H. O. S.) Vol. 28, 29, 30. Cambridge, 1921.

Culla Niddesa, (P. T. S.) London, 1918.

Diodorus Siculus, (Loeb Classical Library, London, 1933.) Tr. J. W. Mc Crindle, *Ancient India as Described in Classical Literature*, West minister, 1901.

Divyāvadāna, Ed. E. B. Cowell, Cambridge, 1886; Darbhanga, 1959.

Digha Nikāya, (P. T. S.) London, 1896–1911; Ed. J. Kasyapa, Nalanda, V. S. 2015; Tr. Rhys Davids, (S. B. B.) 3 Vols. London, 1899, 1910, 1921.

Gaṇapātha of Pāṇini, Varanasi, 1950.

Gautama Dharmsūtra, Anandasrama, Poona, 1910. Tr. G. Buhler, (S. B. E.) Vol II. Oxford, 1879.

Gṛihyasūtras, (Śāṅkhāyana, Āśvalāyana, Pāraskara, Khādira, Gobhila, Hiraṇyakeśina, Āpastamba) (S. B. E.) Vols. XXIX. & XXX, Oxford, 1886, 1892.

Geography of Ptolemy, Tr. J. W. Mc Crindle, *Ancient India as Described by Ptolemy*, Calcutta, 1825.

Geographica of Strabo. Ed. Meineke, Leipzig, 1866–67; Tr. H. C. Hamilton and W. Falconer, London, 1854–57; Tr. J. W. Mc Crindle, *Ancient India as Described in Classical Literature*, Westminister, 1901.

Herodotus, Tr. A. D. Godley. Loeb Classical Library, London, 1950.

Indica, of Megasthenes, Tr. J. W. Mc Crindle, *Ancient India as Described by Megasthenes and Arrian*, Bombay, 1877.

Isidore of Charax, Ed. C. Muller, Paris, 1855; Tr. S. H. Schoff, Philadelphia, 1915.

Jātaka, Ed. V. Fousboll, London, 1877–97; Tr. E. B. Cowell and others, Cambridge, 1895–1913.

Jātakamālā, Boston, 1891.

Jainasūtras, (S.B.E.) Vol. XXII. Pt. I, XLV. Oxford, 1884, 1895.

Kāśikā, Banaras, 1931.

Kauṣitaki Upaniṣad, Tr. *Thirteen Principal Upaniṣads*, Oxford, 1921.

Majjhima Nikāya, (P. T. S.) London, 1882–1902; Tr. Lord Chalmers (S. B. B.) London, 1926–27.

Mahāvastu, Ed. Senart, Paris, 1882–97.

Mahābhārata, Critical edition, Poona, 1927 and onward; Gorakhpur, 1955–58; Tr. P. C. Roy, Calcutta, 1895–1905.

Mahāniddesa, (P. T. S.) London, 1916–17.
Manusmṛti, Banaras, V. S. 2004.
Maṇimekalai, Madras, 1921.
Maitrāyaṇī Saṁhitā, Leipzig, 1886–87.
Mitākṣharā commentary on *Yājñyavalkyasmṛti* by Vijñāneśvara, Ed. J. R. Ghorpure, Bombay, 1914; Tr. J. R. Gharpure, Bombay, 1936.
Medhātithi's commentary on *Manusmṛti*, G. Jha, Calcutta, 1932–39.
Milindapañho, Ed. V. Trenckner, London, 1880; Tr. T. W. Rhys Davids, (S. B. E.) Vol. XXXV, XXVI, Oxford, 1890–94.
Naturalis Historia of Pliny, Ed. C. Mayhoff, Leipzig, 1892–1909. Tr. J. W. Mc Crindle *Ancient India as Described in Classical Literature*, Westminister, 1901.
Nāradasmṛti, (S. B. E.) Vol. XXXIII. Oxford, 1889.
Pañcaviṁśa Brāhmaṇa, Calcutta, 1931.
Pañcasūdani, (P. T. S.). London.
Periplus Maris Erythraei, Tr. J. W. Mc Crindle, *Commerce and Navigation of Erythraean Sea*, Calcutta, 1879; Tr. W. H. Schoff, *Periplus of the Erythraean Sea*.
Pātañjalam Mahābhāṣyam, Ed. Guruprasad Shastri, Banaras; F. Kielhorn, *Mahābhāṣya of Patañjali*, 2nd ed. 3 Vols., 1892–1909.
Rāmāyaṇa of Vālmiki, Parigi, H. D. CCC. XLIV; Kumhakoṇam ed. Bombay, 1902; Ed. Raghuvira, Lahore, 1938; Banaras, 1951; Tr. M. N. Dutta, Calcutta, 1892–94.
Ṛgvedasaṁhitā with Sāyaṇa's commentary, Mumbai, 1810, Ed. Poona, 1933; Tr. R. T. F. Griffith, Banaras, 1896–97; Tr. R. G. Triveda, Allahabad, 1959.
Ṛgvedic Brāhmaṇas (H. O. S.) Vol. XVV. 1920.
Śāṅkhāyana śrautasūtra, Calcutta, 1886–89.
Śatapatha Brāhmaṇa, Ed. A. Weber. London, 1885; Tr. J. Eggeling. (S. B. E.) Vol. XII, XXVI, XLI, XLIII, XLIV. Oxford, 1882–1900.
Samanta Pāsādikā, (P. T. S.), London.
Saṁytta Nikāya, (P. T. S.), London, 1883, 1888.
Siddhānta Kaumudī of Bhaṭṭoji Dikshit, Bombay, 1948.
Silappadikāram, Ed. and Tr. V. R. R. Dikshitar, Oxford, 1939.
Sutta Nipāta, (P. T. S.) London, 1913.

Taittiriya Brāhmaṇa, Ed. R. L. Mitra, Calcutta, 1855–70.
Taittiriya Saṁhitā, Ed. Weber. Berlin, 1871–72.
Uttarādhyānasūtra, Ed. J. Carpenter, Upsala, 1921.
Udāna Aṭṭhakathā.
Vājasaneyi Saṁhitā, Ed. Weber, London, 1852.
Vāsiṣṭha Dharmasūtra, Ed. A. A. Fuhrer, Bombay, 1916.
Vimānavatthu.
Vinaya Piṭaka, Ed. H. Oldenberg, (P. T. S.) London. 1879–83; Ed. J. Kasyapa, Nalanda, 1959. Tr. T. W. Rhys Davids and H. Oldenberg, (S. B. E.) Oxford, 1883–85.
Viṣṇu Dharmasūtra.
Visuddhimagga.
Yajurveda.
Yājñavalkyasmṛti, Mumbai, 1949.
Vimānavatthu Aṭṭhakathā.

B. Secondary Works :

Adhya G. L., *Early Indian Economics*, Bombay, 1966.
Agrawala V. S., *India as known to Pāṇini*, Lucknow, 1952.
Agrawala V. S., *Pāṇini Kālina Bhārata*, Banaras, V. S. 2012.
Aiyangar K. V. Rangaswami, *Ancient Indian Economic Thought*, Banaras, 1934.
Aiyangar S. K., *Beginnings of South Indian History*, Madras, 1918.
Allan J., *A Catalogue of Coins in the British Museum—Coins of Ancient India*, London, 1936.
Altekar A. S., *Report on the Kumarhar Excavations*, Patna, 1959.
Andreades A. M., *A History of Greek Public Finance*, Harvard, 1933.
Apte V. M., *Social and Religious Life in the Gṛhyasūtras*, Ahmedabad, 1939.
Appadorai A., *Economic Condition in South India*, Vol. I. & II. Madras, 1936.
Avasthi G. L., *Veda Dharatal*.
Bagchi P. C., *India and China*, Bombay, 1950.
Banerjea J. N., *Development of Hindu Iconography*, Calcutta, 1956.
Bandyopadhyaya, N. C., *Economic Life and Progress in Ancient India*, Calcutta, 1925.

Bandyopadhyaya N. C., *Kauṭilya*, Calcutta, 1927.
Barnett L. D., *Antiquities of India*, London, 1913.
Barua B. M., *Gaya and Bodhagaya*, Calcutta, 1934.
Barua B. M., *Barhut*, Calcutta, 1937.
Barua and Sinha, *Barhut Inscriptions*, Calcutta, 1926.
Basham A. L., *The Wonder That was India*, London, 1954.
Basham A. L., *Studies in the Indian History and Culture*, 1965.
Basu P. N., *Indian Colony in Siam*, Lahore, 1929.
Beal S., *Buddhists Records of the Western World*, London, 1884.
Bedrich Hoozny, *Ancient History of Western Asia, India and Crete*, Prague, 1939.
Bhandarkar R. G. *Early History of the Deccan*, Bombay, 1895.
Bhandarkar R. G., *Vaisnavaism and Saivism and other Minor Religious System*, Poona, 1928.
Bhandarkar D. R., *Lectures on Ancient Indian Numismatics*, Calcutta, 1921.
Bhandarkar D. R., *Aśoka*, Calcutta, 1925.
Banerjee G. N., *Hellinism in Ancient India*, Calcutta, 1920.
Bhandarkar D. R., *Lectures on Ancient History of India*, Calcutta, 1919.
Bose A. N., *Social and Rural Economy of Northern India*, 2 Vols. Calcutta, 1942–1945.
Buch M. N., *Economic Life in Ancient India*, Baroda, 19:4.
Buhler G., *Indian Studies*, Vol. III. 2nd. ed.
Bunbury E. H., *History of Ancient Geography*, 2 Vols.
Bury J. B., *History of Greece*, London, 1952.
Brown C. J., *Coins of India*, Culcutta, 1922.
Brown C. J., *Catalogue of Pre-historic Antiquities in the Indian Museum*, Simla, 1917.
Chakrabortty S. K., *A Study of Ancient Indian Numismatics*, Mamensing, 1931.
Chakrabortty S. K., *Currency Problems in Ancient India*, Calcutta, 1937.
Chakravarty P. C. *India and Central Asia*, Calcutta, 1927.
Charlesworth M. P, *Trade Routes and Commerce of the Roman Empire*, Cambridge, 1924.
Chakraborty H., *Trade and Commerce of Ancient India*, Calcutta, 1967.

Childe, V. G., *New Light on Most Ancient East*, London, 1934.
Cole C. H., *History af Technology*, Vol. I. Oxford.
Coleman Norton, Ed. *Studies in Roman Economic and Social History*, Princeton, 1951.
Coggin Brown J., *India's Mineral Wealth*, London, 1936.
Coomarswamy A. K., *History of Indian and Indonesian Art*. London, 1927.
Cunningham A., *Ancient Geography of India*, Calcutta, 1924.
Cunningham A., *Coins of Ancient India*, London, 1891.
Cunnigham A., *Coins of Indo-Scythians*, London, 1888.
Cunnigham A., *Stupa of Bharhut*, Calcutta, 1879.
Dange, A. S., *India from Primitive Communism to Slavery*, Bombay, 1949.
Das, S. K., *Economic History of India*, Calcutta, 1949.
Dey, N. L., *The Geographical Dictionary of Ancient and Medeaval India*, London, 1927.
Dikshit S. N., *Pre-historic Civilization of the Indus Valley*, Madras, 1939.
Dikshitar V. R. R. *The Mauryan Polity*, Madras, 1932.
Dikshitar, V. R. R., *Silappadikāram*, Oxford. 1939.
De B. Priaulx, O., *The Indian Travels of Apollonius of Tyana and the Indian Embassies to Rome*, London, 1872.
Dutt, B. B., *Town Planning in Ancient India*,
Dutt, N. K., *Origin and Growth of Caste in India*, London, 1931.
Dutt, N., *Early History of the Spread of Buddhism*, London, 1925.
Fergusson, J., *Tree and Serpant Worship*, London, 1873.
Fick, R., *Social Organisation of North-East India in the Time of the Buddha*, Calcutta, 1920.
Forbes, R. J., *Metallurlurgy in Antiquity*, Leiden, 1950.
Foucher, A., *La Vieille Route de L'Inde de Bactres a Taxila*, 2 Vols. Paris, 1942.
Foucher, A. *Notes On Ancient Geography of Gandhāra*, Calcutta, 1915.
Frankfort H., *Tell Asmar*.
Frankfort, H., *Studies in Early Pottery*.
Frankfort H., *Stratified Cylender Seals from Diyal Region*.

Frankfort H., *Cylinder Seals*, London, 1939.
Fairservis, *Excavations in Quetta Valley*.
Gerini, G. E., *Researches on Ptolemy's Geography of Eastern Asia*, London, 1909.
Gibbon, E., *Decline and Fall of Roman Empire*, London, 1912.
Girshman R., *Iran*, (Pelican) 1946.
Ghosal, U. N., *Contributions to the Histcry of Hindu Revenue System*, Calcutta, 1929.
Ghosal, U. N., *The Agrarian system in Ancient India*, Calcutta, 1930.
Ghosal, U. N., *A History of Indian Political Ideas*, Oxford, 1959.
Ghosal, U. N., *Ancient Indian Culture in Afghanistan*, Calcutta, 1928.
Ghurye, G. S., *Indian Costume*, Bombay, 1951.
Glyn Daniel, *The Scythians*, London, 1957.
Gopal, M. H. *Mauryan Public Finance*, London, 1935.
Gopalachari, K., *Early History of the Āndhra Country*, Madras, 1941.
Gordon, D. H., *The Pre-historic Background of Indian Culture*, Bombay, 1958.
Gorell, Ed. *Economics—Man and His Material Resources*, London, 1949.
Govinda Chandra, *Studies in the Development of Ornaments and Jewellery in the Proto-historic India*, Varanasi, 1959.
Gupta, P. L., *Roman Coins from Āndhra Pradesh*, 1965.
Hall, H. R., *The Ancient History of Near East*, London, 1950.
Hirth, F., *China and the Roman Orient*, Leipzig, 1885.
Holdich, *The Gates of India*, London, 1910.
Henning, *Central Asian Silk*, Sweden.
Jain, J. C., *Life in Ancient India as Depicted in Jain Canons*, Bombay, 1947.
Jayaswal K. P., *Hindu Polity*, Bangalore, 1943.
Jaiswal, K. P., *Manu and Yājñavalkya*, Calcutta, 1930.
Kane, P. V., *History of Dharmaśāstra*, 5 vols, Poona, 1930 etc.
Kar, Chintamani, *Classical Indian Sculpture*, London, 1950.
Kanakasabhai Pillai, *The Tamils Eighteen Hundred Years Ago*, Madras, 1904.

Keith, A., *Al Ubaid.*

Kuraishi, M. H., *Rajgir*, Delhi, 1950.

Kosambi, D. D., *Introduction to the Study of Indian History*, Bombay, 1956.

Kosambi, D. D., *Indian History Culture and Civilization*, 1964.

Law, B. C., *Geography of Early Buddhism*, London, 1932.

Law, B. C., *Geographical Essays*, Calcutta, 1938.

Law, B. C., *India as Described in Early Texts of Buddhism and Jainism*, London, 1941.

Law, B. C., *Historical Geography of Ancient India*, Paris, 1954.

Macdonald, G. *Coin Types*, Glasgo. 1905.

Mackey, E. J. H., *Further Excavations at Mohenjodaro*, Delhi, 1938.

Mackey, E. J. H., *Chanhudaro Excavations*, 1943.

Mackey, E. J. H., *Early Indus Civilization*, Lauzac, 1948.

Maity, S. K., *The Economic Life of Northern India in the Gupta Period*, Calcutta, 1957.

Maisey, *Sanchi and its Remains*,

Majumdar, R. C., *Ancient Indian Colonies in the Far East*, Vol. I. *Champa*, Lahore, 1927.

Majumdar, R. C., *Ancient Indian Colonies in the Far East*, Vol. II. *Suvarṇadvipa*, Pts. I & II, Dacca, 1937, 1938.

Majumdar, R. C., *Kambujadeśa*, Madras, 1944.

Majumdar, R. C., *Hindu Colonies in the Far East*, Calcutta, 1944.

Majumdar, R. C., *Corporate Life in Ancient India*, Calcutta, 1922.

Majumdar, R. C., *The History of Bengal*, Vol. I. Dacca, 1943.

Majumdar, R. C., *The Vedic Age*, London, 1957.

Majumdar, R. C., *The Age of Imperial Unity*, Bombay, 1960.

Majumdar, N. G., *Revealing India's Past.*

Majumdar, G. P., *Some Aspects of Indian Civilization*, Calcutta, 1938.

Marshall, J., *Mohenjodaro and the Indus Civilization*, 3 Vols., London, 1931.

Marshall, J., *Guide to Sanchi*, 3rd. edition, Delhi, 1936.

Marshall, J., *A guide to Taxila*, Cambridge, 1960.

Marshall, J., *Taxila*, 3 vols. Cambridge, 1951.

Marshall, J. and Foucher, A, *The Monuments of Sanchi*, Calcutta, 1940.

Marshall, *Principles of Economics.*

Mehta, R. L., *Pre-Buddhist India*, Bombay, 1939.

Mitra, P., *Pre-historic India*, Calcutta, 1927.

Mookerji, R. K., *Chandragupta Maurya and His Times*, Madras, 1943.

Mookerji, R. K., *Hindu Civilization*, Bombay, 1957.

Mookerji, R. K., *Local Government in Ancient India*, Oxford, 1920.

Mookerji, R. K., *Ancient India*, Allahabad, 1956.

Mookerji, R. K., *History of Indian Shipping and Maritime Activity from the Earliest Times*, London, 1912.

Motichandra, *Sarthavaha*, Patna, 1953.

Narain, A. K., *Indo-Greeks*, Oxford, 1957.

Narain, A.K., *The Coin Types of Iodo-Greek Kings*, Banaras, 1956.

Narain, A. K. and L. Gopal, Ed. *Chronology of Punch-Marked Coins*, Banaras, 1967.

Nag, K., *Greater India*, Calcutta, 1926.

Oppert, G., *On the Ancient Commerce of India*, Madras, 1879.

Pandey, R. B., *Bharatiya Itihas ki Bhumika*, Delhi, 1949.

Panikkar, K. M., *Geographical Factors in Indian History*, Bombay, 1955.

P. Gardner, *A Catalogue of Indian Coins in the British Museum—The Greeks and Scythic Kings of Bactria*, London, 1886.

Paul En Einzig, *Primitive Money*, London, 1951.

Phayre, *History of Burma.*

Puri B. N., *India in the Time of Patañjali*, Bombay, 1957.

Puri B. N., *India as Described by Early Greek Writers*, Allahabad, 1939.

Pran Nath, *Economic Condition of Ancient India*, London, 19ℓ9.

Rahul Sankrityayana, *Puratattva Nibandavali*, Allahabad, 1937.

Rahul Sankritayayana, *Buddhacharyā*, Benaras.

Ramchandran, *Stupa of Goli*, Madras.

Ram Gopal, *India of Vedic Kalpasūtra*, Delhi, 1952.

Rhys Davids, T. W., *Buddhist India*, Calcutta, 1950.

Rapson, E. J., *Cambridge History of India*, Vol. I., Cambridge, 1922.

Rapson, E. J., *Indian Coins*, Strassburg, 1897.

Rapson, E. J., *A Catalogue of Indian Coins in the British Museum. Coins of the Andhra Dynasty, the Western Kshatrapas etc.* London, 1908.

Rapson, E. J., *Ancient India*, Cambridge, 1914.

Raychaudhuri, H.C., *Political History of Ancient India*, Calcutta, 1953.

Ray, J. C., *Ancient Indian Life*, Calcutta, 1948.

Rawlinson, H. G., *Intercourse between India and Western World*, Cambridge, 1916.

Rostovtzeff, M., *Social and Economic History of the Hellenistic World*, 3 vols, Oxford, 1941.

Saha, K. T., *Ancient Foundations in Ancient India*, Bombay, 1954.

Sarkar, S. C., *Some Aspects of Earliest Social History of India*, London, 1928.

Samaddar, J. N., *Economic Condition of Ancient India*, Calcutta, 1922.

Schmidts, E. *Flight Over Ancient Cities of Iran*, Chicago.

Schmidts, F. Excavations and Tepe *Hissar*, Philadelphia, 1937.

Schoff, W. H., *The Periplus of the Erythraean Sea*, London, 1912.

Sharma, R. S., *Stages in Ancient Indian Economy*, Delhi, 1961.

Sharma, R. S., *Indian Feudalism*, Calcutta, 1966.

Sharma, R. S. *Political Ideas and Insiitutions in Ancient India*, London, 1959.

Shrivastava, S. K., *Transport Development in India*, 1960.

Sengupta, P., *Everyday Life in Ancient India*, Cambridge, 1950.

Sircar, D. C., *Select Inscriptions*, Calcutta, 1942.

Sivaram Murti, S., *Amaravati Sculptures in the Madras Museum*, Madras, 1950.

Smith, V. A., *Early History of India*, Oxford, 1924.

Spate, O. H. K., *India and Pakistan*, London, 1954.

Srivastava, Balram, *Sikandara aura Paścimottara Bhārata*, Banaras, 1957.

Srivastava, Balram, *Rūpamaṇḍana*, Banaras, 1964.

Srivastava, Balram, *Bhāratiya Itihāsa Ki Rūparekhā*, 1964.

Stein, A., *On Ancient Tracks Past Pamir*.

Stein, A., *Ancient Khotan*, Oxford, 1907.

Stein, A., *Ruins of Desert Cathay*, London, 1912.

Stein, A., *Serindia*, Oxford, 1921.
Stein, A., *Innermost Asia*, Oxford, 1928.
Stein, A., *On Ancient Central Asian Tracks*, London, 1933.
Stein, A., *Archaeological Explorations in Chinese Turkistan*, London, 1901.
Stein, A., *Archaeological Reconnaissance in North West India and South Eastern Iran*, London, 1937.
Stein, A., *Old Routes of Western Iran*, London, 1940.
Stein, A., *On Alexander's Track to the Indus*, London, 1929.
Stein, O., *Megasthenes and Kauṭilya*, 1921.
Stella Kramrisch, *Indian Sculpture*, Calcutta, 1933.
Stuart Piggot, *Pre-historic India*, Middlesex, 1952.
Stuart Piggot, *Some Ancient Cities of India*, Cambridge, 1945.
Subbarao, N. S., *Economic and Political Condition in Ancient India*, Mysore, 1911.
Saran, K. M., *Labour in Ancient India*, Bombay, 1957.
Sastri, K. A. N., *A History of South India*, Oxford, 1955.
Sastri, K. A. N., *Colas*, Madras, 1935–1937.
Sastri, K. N., *Age of Nandas and Mauryas*, Banaras, 1952.
Sastri, K. A. N., *Gleanings of Social Life from the Avadana*
Sastri, K. A. N., Ed. *Mauryas and Satavahanas*, Calcutta, 1957.
Tarn, W. W., *Greeks in Bactria and India*, Cambridge, 1938.
Tarn, W. W., *Hellenistic Civilization*, London, 1927.
Thaper, R., *Aśoka and the Decline of the Mauryas*, Oxford, 1961.
Tausiz, F. W., *Principles of Economics*.
Taylor Griffith, *Geography in the Twentieth Century*.
Taylor, Issac, *Origins of the Āryans*, London, 1889.
Thomson, J. O., *History of Ancient Geography*, Cambridge, 1948.
Upadhyaya, B. S., *India in Kalidas*, Allahabad, 1947.
Upadhyaya, B., *Buddha Kālina Bhūgola*, Allahabad, 1961.
Vaidyanatha Ayyar, R. S., *Manu's Land and Trade Laws*, Madras, 1927.
Van Llhuizen De Leeuw, J. F., *The Scythian Period*, Leiden, 1949.
Vats, M. S. *Excavations at Harappa*, London, 1949.
Vincent, W., *Commerce and Navigation of the Ancients in the Indian Ocean*.

Vyas, N. R., *Rāmāyaṇa Kālina Saṁskriti*, Delhi, 1958.
Vyas, N. R., *Rāmāyaṇa Kālina Samāja*, Delhi, 1958.
V. Gordon Childe, *Man Makes Himself*, New York, 1957.
Warmington, E. H., *Commerce between Roman Empire and India*, Cambridge, 1928.
Warmington Smith, *Masters and Sailors in Europe and Asia.*
Watt, G., *Commercial Products of India*, London, 1908.
Wheeler, R. E. M., *Rome beyond its Imperial Frontiers*, Harmondsworth, 1955.
Wheeler, R. E. M., *Indus Civilization*, Cambridge, 1953.
Wheeler, R. E. M., *Early India and Pakistan*, Bombay, 1959.
Whitehead, R. B., Catalogue of Coins in the Punjab Museum, Vol. I. Oxford, 1914.
Wooley, L., *Excavations at Ur.*
Wooley, 1., *Sumerians*, Oxford, 1921.

C. Journals, Periodicals and Reports :

Ancient India, Nos. 1-20.
Annals of the Bhandarkar Oriental Research Institute.
Antiquity, Vols. XII, VII, XXXVI, XXVII, XXI.
Annual Bibliography of Indian Archaeology, 1932.
Arcniv Orientālni, Vol. XVII, 1954.
Archaeological Survey of India, Annual Report, 1903-4, 1911-12, 1913-14, 1915-16.
Archaeological Survey of Western India.
Arts and Letters.
Bulletin de l' Ecole Francaise d' Extreme Orient, 1904.
Bulletin of the School of Oriental and African Studies, I, 1917.
Bulletin of the National Institute of Science of India, 1952.
Calcutta Review, Vol. XLI.
Current Science, Vol. 35, No. 9, 1964.
Documents Archaeologiques at Epigraphiques, Vol. XV.
Etudes Asiatique, Vol. II. 1925.
Epigraphia Indica, Vol. VIII.
Geographical Journal, 1927, 1942.
Indian Antiquary.
Indian Archaeology a review, 1955-58.

Indian Culture, Vol. I.
Indian Historical Quarterly, 1938, 1927, 1929, 1932.
Indian Studies-Past and Present.
Illustrated London News, January, 11, 1958.
Islamic Culture, XI, 1937.
Journal Asiatique, 1915, 1926, 1936.
Journal of American Oriental Society, 1954, 1960, 1915.
Journal of the Bombay Branch of Royal Asiatic Society, Vols. IX, XIX, XXVI.
Journal of Indian History, 1962.
Journal of the Royal Asiatic Society of Great Britain and Ireland, 1877, 1894, 1898, 1901, 1904, 1910, 1912, 1919, 1928.
Journal of Social and Economic History of the Orient, 1942, 1958, 1960.
Journal of Asiatic Society (Numismatic Supplement), Vol. XLV.
Journal of Royal Asiatic Society (Letters) 1949, 1950.
Journal of Asiatic Society of Bengal, Vols. X, XXIX,
Journal of Numismatic Society of India, Vols. I, II, IV, X, XII, XIII, XIV, XV, XLIV, XXII.
Journal of U. P. Historical Society, Vols. VI, XII.
Leader, April, 1958.
Lalita Kalā, Nos. 3-4, 1956-57.
Memoirs of Archaeological Survey of India—
—*A Tour in North Baluchistan and Waziristan*, No. 59.
—*An Archaeological Tour in Gedrosia*, No. 43.
—*Explorations in Sind*, No. 48.
—*The Indus Valley in the Vedic Period*, No. 31.
—*Survivals of the Pre-historic Civilization of the Indus Valley*, No. 41.
—*Excavations in Baluchistan*, No. 35.
Man in India, Vols. XXVI, XXVII.
New Indian Antiquary.
Numismatic Chronicles, 3rd. Series, Vol. XVIII. 1948.
Numismatic Orientalia, Pt. I.
Poona Orientalists, Vol. V, Nos. 2, 3, 1940.
Proceedings of All India Oriental Conference, 1954, 1965.

Proceedings of British Academy, 1932, Vol. XVIII.
Sino Indian Studies, Vol. II. No. 2, Vol. VII. No. 2.
Science and Culture, Vol. VII.

D. Commomerative volumes, gazetteers and lexicons :

Abhidhānacintāmaṇi of Hemachandra, Bombay, Saka 1818.
Amarakoṣa, Poona, 1913.
Ashutosh Mookerjee Silver Jublee Volume, Calcutta, 1922–28.
B. C. Law Commemoration Volume, Calcutta, 0945–46.
Bhārata Kaumudi, R. K. Mookerjee Commemoration Volume, 1945–47.
Baluchistan District Gazetteer.
Buddhist Hybrid Sanskrit Dictionary, E. F. Edgerton.
Dictionary of Pāli Proper Names, Malalasekera, London, 1960.
Jhalwan District Gazetteer.
Halayudha Koṣa, Lucknow.
Pāli English Dictionary, Rhys Davids, and Stede, (P. T. S.) London, 1912–1925.
R. G. Bhandarkar Commemoration Volume, Poona, 1917.
Sabdakalpdrum, Varanasi, 1961.
Vachaspatyam, Varanasi, 1962.
Vedic Index, Macdonll and Keith, London, 1912.

GENERAL INDEX

D

E

F

G

N

T

U

V

PLATES

PLATE I

1

2

3

4

6

5

7

8

PLATE II

PLATE III

PLATE IV

1

2

PLATE V

PLATE VI

3
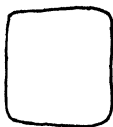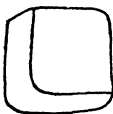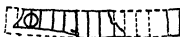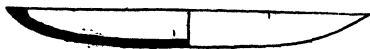
PLATE VII

PLATE VIII

1

2

PLATE IX

1

3

2